Rethinking Roman Britain: An Applied Numismatic Analysis of the Roman Coin Data Recorded by the Portable Antiquities Scheme

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Declaration

I, Philippa Jane Walton, confirm that the work presented in this thesis is my own. Where information has been derived from other sources, I confirm that this has been indicated in the thesis.

Signature: Date

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Abstract

This thesis explores the potential of Roman coin data, particularly that recorded by the PAS, as a tool for understanding the development of the Roman province of *Britannia*. Using a range of Applied Numismatic techniques, it surveys patterns of coin loss to evaluate *when*, *where*, *by whom* and *for what purpose* Roman coins were employed. In doing so, it provides an insight not only into the economy of Roman Britain, but also a range of themes such as regionality and Romanisation. Five case-studies involve analysis of the coin data at a national or regional level. The first, outlined in Chapter 4, explores mean values for coin loss and presents a new method for investigating denominational variation. This provides fundamental context for all research undertaken in this thesis. It is followed by four chapters that offer a snapshot of patterns of coin loss at key moments during the history of Roman Britain. These include analyses of Republican and Claudian issues, Carausian and Allectan coinage, and mid fourth to early fifth century coinage. Two further case studies focus on patterns of coin loss at a regional and site-specific level. Chapter 9 integrates site find and hoard evidence from the Isle of Wight, in order to investigate its development within a provincial context. The usefulness of coin assemblages for identifying settlement foci and tracing their chronologies is also assessed. Chapter 10 explores the character and date of a votive deposit from Piercebridge, County Durham. It compares and contrasts the coin profile for the site with other votive assemblages from Roman Britain, in order to test the theory that particular types of site exhibit particular types of coin loss. The treatment of coins is also assessed as are non-numismatic finds' data. Chapter 11 summarises the conclusions reached in individual chapters and explores how they lead to an enhanced understanding of Roman Britain. Recommendations for further work are also made.

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Chapter 1

The aims of this study

1 Introduction

In 1932, Harold Mattingly proposed that a comprehensive survey of Roman coin finds from Britain be undertaken. Stray losses, site finds and hoards were to be recorded, and their details used, to define the extent and intensity of Roman occupation throughout the first to fifth centuries AD (Mattingly 1932, 90). While scholars supported the proposal enthusiastically, arguing that it would undoubtedly 'shed a flood of light, not only on numismatic problems, but also on the history of Roman rule in Britain' (O'Neil 1936, 78), the survey was never undertaken. Indeed, cataloguing, analysing and mapping such large numbers of coins would have presented an immensely time-consuming challenge in the pre-digital age.

More than eighty years later, there have been significant advances in the study of Romano-British numismatics. The bulk of research has concentrated on the quantification and analysis of hoards from the province (cf. Abdy, Ghey and Leins 2009; Abdy, Leins and Williams 2002; Bland and Orna-Ornstein 1997; Robertson 2000). However, the field of Applied Numismatics has also developed a range of numerical and statistical techniques for analysing assemblages of coins as site finds. Meanwhile, the number of Roman coins recorded in Britain continues to grow. In 2008, the Portable Antiquities Scheme (PAS) had recorded more than 55,000 coins from rural sites, traditionally neglected by archaeological fieldwork (Curnow 1974, 62). Research excavations and development control projects have discovered a further 230,000. The potential of such a massive dataset is obvious and, as such, it seems an appropriate time to revisit Mattingly's original proposal.

1.1 The aim

The aim of this thesis is therefore to explore the potential of Roman coin data, focusing particularly on that recorded by the PAS, as a tool for understanding the development of the Roman province of *Britannia*. Using a

range of Applied Numismatic techniques, it surveys patterns of coin loss at a national, regional and site specific level to evaluate *when*, *where*, *by whom* and *for what purpose or purposes* Roman coins were employed. It is envisaged that such an evaluation will allow insight, not only into the economy of Roman Britain, but also into its socio-political development. For example, the ways in which coin evidence can contribute to the debate on key themes, such as regionality and Romanisation will be assessed.

1.2 The structure of this thesis

Due to the size of the dataset and the geographical remit of the PAS, it would not be possible to undertake the comprehensive survey, of all numismatic material from the province, envisaged by Mattingly. Instead, this thesis provides the foundations for such a survey. In Chapters 2 and 3, the theoretical and methodological framework of this research is discussed. Chapters 4 to 10 provide a range of case-studies which illustrate the potential of the dataset, whilst Chapter 11 suggests potential avenues for further research.

1.2.1 National, period-specific case-studies

Five case-studies involve analysis of the coin data at a national or regional level. The first, presented in Chapter 4, explores mean values for coin loss and provides fundamental context for all analysis undertaken throughout the thesis. It is followed by four chapters that offer a snapshot of patterns of coin loss at key moments during the development of the province of *Britannia*. Chapters 5 and 6 comprise analyses of the distribution of Republican and Claudian issues which enable an exploration of the function and users of coinage in the first century AD, and more generally the theme of interaction between ‘Roman’ and ‘native’. Chapter 7 possesses a more numismatic focus. It concentrates on how the distribution pattern of Carausian and Allectan coinage might relate to the location of British mints active during each of the usurpers’ reigns. Finally, Chapter 8 assesses the extent to which

patterns of fourth century coin loss contribute to the scholarly debates on late Roman decline and the end of Roman Britain.

1.2.2 Regional and site specific case-studies

The chapters which focus on national patterns of coin loss are supplemented by two detailed case-studies, which explore patterns of coin loss at a regional and site-specific level. Chapter 9 integrates site find and hoard evidence from the Isle of Wight, in order to investigate its role within the development of the province. The usefulness of coin assemblages for identifying settlement foci and tracing their chronologies is also assessed. Chapter 10 explores the character and chronology of a votive deposit from Piercebridge, County Durham. It compares and contrasts the coin profile for the site with other votive assemblages from Roman Britain, in order to test the theory that particular types of site exhibit particular types of coin loss. The treatment of coins is also assessed and non-numismatic finds' data integrated into analysis to demonstrate the importance of a holistic approach.

1.2.3 The wider impact of this study

Chapter 11 summarises the research undertaken throughout the thesis and explores how it might contribute to the wider research agenda for Roman Britain. It also outlines the huge potential for study using PAS data and suggests several areas where further research might be worthwhile.

Chapter 2

Numismatics and Roman Britain

2 Introduction

This chapter provides context for the research undertaken in this thesis, by exploring the ways in which coins have contributed to historical and archaeological narratives constructed for Roman Britain. It outlines how attitudes to numismatics have shaped the use of coins in broad, general studies of the province, before discussing the more specialised methods, developed in the field of Applied Numismatics, to assess coin supply and use at a national, regional and site specific level.

2.1 The status of numismatics

Despite the sheer number of Roman coin finds from Britain, the study of numismatics has played a relatively minor role in historical narratives, for the province, and instead is frequently relegated to footnotes in specialist studies. Its impact is exemplified in ‘a study of the effects of Roman rule on the lowland zone of Britain…[which] places the Romano-British towns and villas in their economic and political setting’ (Rivet 1964 cover summary) where coin evidence is only touched upon twice (Rivet 1964, 97 and 116), or in a recent atlas of Roman Britain that includes a whole chapter on ‘The Economy’ without a single reference to coins (Jones and Mattingly 1990, 179-232).

Whilst at first it may seem surprising that such a recognisable artefact type is neglected, it is not difficult to account for the marginalisation of numismatics in mainstream syntheses of Roman Britain. Indeed, it is partially a reflection of the scarcity of archaeological evidence at the beginning of the twentieth century when serious study of Roman Britain began. At this time archaeology was inevitably relegated to a secondary or supplementary position, whilst literary sources were held in high regard. Unfortunately, despite the vast increase in the number of excavations of sites dating to the Roman period in Britain, this attitude continued to prevail well into the late twentieth century. Hence, Frere complained that ‘we can

measure the Romanisation of Britain only with imprecision, for we have to depend so largely upon the evidence of material things…rather than upon the much more revealing evidence of contemporary testimony' (Frere 1987, 296). In fact, it is even possible to discern a slight decline in the use of numismatic evidence, despite the claim by academics to be redressing the balance in favour of archaeology (Millett 1990; Mattingly 2006).

Conversely, the familiarity and relative ubiquity of Roman coin finds may also in some sense contribute to their neglect. There is an assumption that their function and usage is well understood, and as they are found in such quantities, that little new information could be gleaned from extensive study. This idea is exemplified in the attitude of some metal detector users, who discard fourth century *nummi,* because they are so very numerous and by the approach of many modern excavators, who publish details only of coins from key contexts. The sparse and insufficient interpretation of a coin assemblage, as reproduced below, is not an unusual feature of excavation monographs:

> '…88 coins of Roman date were recovered during the Stansted project. Of these only 32 can be dated with any certainty. 23 identifiable coins recovered from DCS/DFS were all dated to the fourth century. This date matches that of the occupation well…' (Havis 2004, 273).

General academic attitudes towards numismatics within universities are also likely to have contributed to the marginalisation of the subject in mainstream syntheses of Roman Britain. The subject is accompanied by a degree of antiquarian baggage and although there are exceptions[1], it is often deemed too specialised a subject area, to teach in a university context. Hence when coins are discussed, it is often as objects divorced from any context.

[1] UCL, Durham University, Lancaster University, Warwick University and Cardiff University all teach or have recently taught modules on Roman numismatics.

Alternatively, they are interpreted within a framework where classification by denomination, reverse type, date and mint are deemed the most worthwhile end product (Collingwood and Richmond, 1969; Wacher 1978, 158).

2.2 Coins as dating evidence

This neglect of numismatics, coupled with a narrow perception of the usefulness of coin evidence, mean that inevitably when coins *are* used, they are employed, almost exclusively, as a dating tool. Hence, coin hoards provide confirmation for events described in the literary sources, such as the probable route of the army's advance, during the Claudian invasion (Frere 1987, 50) and the reoccupation of Scotland in the Antonine period (Salway 1997, 149). Meanwhile, single coins or samples of assemblages are used to establish foundation and abandonment dates for individual sites, for example the fortress at Caerleon (Mattingly 2006, 244). This obvious approach can be seen in all studies of Roman Britain with little discernable innovation or refinement, between the works of Haverfield and Mattingly.

Coins are also used, in a similar manner, to provide chronology for key themes, in the history of the province. The *terminus post quem* for urbanisation and the development of villas are the most popularly dated (Collingwood and Richmond 1969, 179; Haverfield and Macdonald 1924, 197-198) but the distributions of coins, whether as site finds or hoards, are also used for example to illustrate the continuation of pagan religious practice, in the late fourth century AD (Jones and Mattingly 1990, 296**;** Salway 1997, 545) or the disruption to elite society in the early fifth century, in eastern England (Mattingly 2006, 538). Such distribution maps have been used to illustrate one of the key concepts in Romano-British studies, that of 'Romanisation'. A link is frequently made between the presence of coins and the existence of a 'Romanised' community or site type. An absence of coins is equated with a failure to 'Romanise', and to integrate into a money-using economy (Esmonde Cleary 1989, 94; Reece 1988a, 6; Rivet 1964, 116;

Wacher 1978, 136). Although Mattingly dispenses with the concept of 'Romanisation' in favour of a model of 'discrepant identities' (Mattingly 2006, 17), he uses the distribution of hoards in Scotland (Mattingly 2006, 438) and Ireland (Mattingly 2006, 449) to illustrate Roman contact and influence at the peripheries of Empire, in much the same way as previous academics employed distribution maps of coins to chart the extent of 'Romanisation.'

2.3 The administrative and economic function of coinage

The function and users of coinage are rarely discussed in early studies of Roman Britain and it appears that the assumption was that coins were employed in much the same way as they are today – to facilitate trade (Wacher 1978, 107 and 157). However, recognition of the symbiotic relationship between the stable administration of Roman Britain and coin usage has inevitably led to a more in-depth examination of coin function and the extent to which the Romano-British economy was monetised. In the first and second centuries, it is argued that the province consisted 'of coin using islands…in an overwhelming sea of virtually coinless peasants', (Abdy 2002, 14) with coinage primarily in circulation to pay the army and civil administration (Boon 1988, 118; Guest 2008f, 139; Greene 1986, 61; Esmonde Cleary 1989, 8). However, it is generally agreed that the situation varied 'from place to place and from time to time' (Reece 1988a, 58). Indeed, information gleaned from the Vindolanda tablets which date to the late first and early second century AD, warns against generalising at a national level. Cash payments for daily lists of foodstuffs purchased are listed and price variations in local markets are noted. This 'neatly undermines any notion of an economy dominated by primitive methods of barter' (Bowman 1994, 70). Despite this evidence, the prevalence of social exchange, particularly in rural areas, is emphasised and the lack of small change until the late third century seen as an impediment to the development of a cash economy (Mattingly 2006, 497; Millett 1990, 180). The significant increase in coin loss and the minting of large numbers of

copies during periods of minimal supply, such as at the end of the third century and throughout the fourth century, are usually seen as marking the transition from an economy, based on social interaction and controlled by an urban elite, to one more closely aligned with market principles (Esmonde Cleary 1989, 96; Mattingly 2006, 497; Millett 1990, 169; Reece 1988b, 102).

The importance of the monetary taxation system as an 'economic dynamo' in fourth century Britain is also emphasised, Esmonde-Cleary states that many of the features of Roman Britain which we consider 'Roman' such as towns, villas and the use of money itself, were dependent on taxation. He argues that coinage provided the stimulus for the development and continued stability of urban life throughout the third and into the fourth century. As the state demanded most taxation in coin, towns acted as central places, where produce could be converted into coin through commercial transactions. As the taxation system was also mediated through towns, they 'had a central role in the late Roman taxation cycle and the later Roman taxation cycle had a central role in the economy of the towns'(Esmonde Cleary 1989, 9). The presence of large numbers of coins is therefore inextricably linked with taxation and the development of a market economy (Esmonde Cleary 1989, 95).

2.4 Using mintmarks

As well as using coins as a dating method, there has been some attempt to use the mintmarks on individual coins to identify mint locations, or to measure fluctuating levels of coin supply and trade to and with Britain. Hence, Casey analyses the volume and distribution of 'C' mint coinage in the vicinity of the various sites suggested as being the 'C' mint, including *Clausentum*, *Calleva Atrebatum* and *Camulodunum*. Despite the small size of his sample, he locates the mint at Colchester, due to the proportion of 'C' mint products on sites in the vicinity (Casey 1994a, 84). Meanwhile, it has also been argued that the proportions of coins from each foreign mint found

in Britain, reflect the volume of trade with that area throughout the fourth century AD (Fulford 1978). However, this has been demonstrated to be an over-simplistic approach as changes in supply from different mints are 'sudden random changes, consistent with apparently arbitrary administrative processes, unconnected with trade' (Millett 1990, 180). There are several stages in the fourth century, where an absence of coin supply is made up for by copying, something which would not have occurred, if a steady flow of coins had been supplied specifically through trade networks.

2.5 Using coins to convey messages

The potential of coin legends, as a medium through which to communicate propaganda and ideological messages, is also a frequently explored and controversial theme (Reece 1980c, 115) and one to which an entire thesis could be devoted. Despite arguments against the attribution of meaning to images found on coins (Jones 1956, 15) individual reverse types and legends from coins found in Roman Britain have been studied, in order to gain an insight into potential messages or propaganda. For example, the appearance of the *chi-rho* on the coinage of Magnentius is interpreted as representing an attempt to emphasise his legitimacy (Salway 1997, 260), whilst coin reverses depicting 'Britannia subdued' and other military victories, are used to illustrate how coins were used as political 'sound-bites', to announce and celebrate Roman achievements within the province (Faulkner 2000, 17; Haverfield and Macdonald 1924, 120; Mattingly 2006, 122; Salway 1997, 153; Wacher 1978, 159). Fourth century reverse types have also been used as 'an index of the religious atmosphere of the court and administrative circles', with different images employed to reflect fluctuating attitudes to Christianity (Reece 1980c, 109ff). The question of the potential audiences, for whom these messages were constructed, is also discussed. Some scholars argue that the images on coins were intended primarily to address and flatter the emperor (Levick 1999, 44). However, there is general agreement that as the main users of currency, the army are

likely to have been targeted (Jones 1956, 15; Casey 1994a, 93). The literary allusions on some coins, particularly those of the usurper Carausius, demanded a 'high level of Roman literary education for their full impact to be appreciated' (Casey 1994a, 58) and are therefore claimed to have been aimed at 'an elite to reconcile them to the status quo' (Casey 1994a, 57).

Indeed, it is the coins of Carausius and to a lesser extent his successor, Allectus, which have been subjected to the most scrutiny, with regard to their potential propagandist messages. It has been noted that examination of the two British usurpers' reigns 'can only be undertaken within the framework of the abundant coinage' (Casey 1994a, 70) and that, as such, they provide not only evidence of his appearance but also of his policy, ideology and aspirations (Frere 1987, 328). Faulkner recognises the value of these coins as political 'sound-bites' (Faulkner 2000, 94), whilst Casey ranks the reverse types of all known Carausian silver, by volume of surviving issues, and convincingly argues for their deliberate and programmatic selection (Casey 1994a, 59). The most prolific issues emphasise Peace (PAX) and Prosperity (VBERITAS), whilst underscoring Carausius' military backing (CONCORDIA MILITVM) and his Good Fortune (FELICITAS), in controlling the naval fleet. Literary allusions are also embodied in many of the designs and legends, with Carausius hailed as the RENOVATOR ROMANO, a welcome Vergilian saviour (EXPECTATE VENI) and the herald of a new Golden Age ('RSR' – 'REDEUNT SATURNIA REGNA') (Casey 1994a, 58; de la Bedoyere 1998; Faulkner 2000, 94). In addition to positioning himself as a political hero imbued with 'an aura of the supernatural or divine' (Salway 1997, 214-215), Carausius also associates himself with the legitimate imperial college, through the use of the formula AVGGG, which stresses the triple division of power (Casey 1994a, 65; de la Bedoyere 1998, 82; Frere 1987, 327; Salway 1997, 215). These themes combine the promise of a new start after a period of crisis and failure, with

the reassurance that order, property and tradition remain secure (Faulkner 2000, 94).

2.6 Coins and the end of Roman Britain

Coins have also played a prominent role in constructing a historical narrative for the end of Roman Britain and the collapse of the provincial administration. Early research used the diminishing supply of coinage to trace the decline of the province in the late fourth century and concluded that this decline was the direct result of the economic failure of towns (Rivet 1964, 97; Frere 1987, 363). Elsewhere, coins are noted as providing 'reasonably reliable site chronologies' for the fourth century (Millett 1990, 219), although some scholars have misinterpreted the evidence available.[2] More recent studies have used coinage not only to trace decline, but also to explore wider themes concerning the governance of the province. For example, some scholars argue that the absence of early fifth century coinage and a failure to produce counterfeits in its place, is clear evidence for the end of coin circulation by AD 420 (Esmonde Cleary 1989, 141) and the wider collapse of the administrative and fiscal framework of the province (Esmonde Cleary 1989, 139ff; Mattingly 2006, 530; Millett 1990, 227; Salway 1997, 351-352; Reece 1988a, 151). However, others suggest that both the Patching Hoard, which includes Continental coinage of the AD 460s, and the widespread distribution of clipped *siliquae*, offer evidence of official or semi-official attempts to maintain the circulation of silver currency until the middle of the fifth century AD (Dark 2000, 55).

2.7 Applied numismatics and histories of Roman Britain

The use of coin assemblages as a tool for exploring wider archaeological themes is a subject barely touched upon in major studies of Roman Britain. Reece notes, in his idiosyncratic study of the province, that coin distributions

[2] Mistakenly, Frere argues that on most sites, there are fewer coins of the House of Valentinian than of Constantius II and that the decline in coin supply sets in at the beginning of the reign of Valentinian I (Frere 1987, 363).

can be used to follow the different fortunes of urban and rural areas, although this is hardly surprising considering his contribution to Applied Numismatics (Reece 1988a, 144). However, elsewhere, their use is restricted to two relatively minor mentions. Firstly, coin profiles of the individual Saxon Shore forts are compared, to support a construction or refurbishment date in the late third century AD (Casey 1994a, 121ff), and to illustrate renewed military activity, in the AD 330s and throughout the remainder of the fourth century AD (Jones and Mattingly 1990, 306ff). Secondly, a brief discussion of the potential of Applied Numismatics is included in a chapter on 'Material Culture and Identity', but is restricted to a basic summary of Reece's work on 140 sites (Mattingly 2006, 473). In fact, the current academic attitude towards numismatics is exemplified by this study. Six lines of text are devoted to discussing Applied Numismatics, whilst a discussion of the distribution of nail cleaners and their contribution to studies of regional identity is allotted fifteen (Mattingly 2006, 473).

2.8 The methods of Applied Numismatics

Despite the omission of Applied Numismatics from mainstream academic studies on Roman Britain, numerous advances have been made in the field, over the past thirty years, which have significant implications for understanding the development of the province. A range of numerical and statistical techniques have been devised, tested, refined or rejected and applied to the study of Roman coins as site finds. These techniques have also been complemented by a more nuanced analysis of geographical distributions and individual issues. Together, they have enabled the exploration of coin supply, use and loss, and have provided an insight into the chronology and function of numerous sites. They have been employed in a national study of first and second century coins from Wales (Guest 2008g), as well as regional studies of Norfolk, Wiltshire and the North West (Davies and Gregory 1991; Moorhead 2001a and b; Shotter 1990 and 2000). Coin reports in some excavation monographs have also begun to

integrate such techniques into their interpretative framework, particularly where the numismatists are former students of Richard Reece (Guest 2008f; Walker 1988; Walton 2008).

2.9 The development of chronological groupings

It has long been recognised that there are patterns in the volume, chronology and distribution of Roman coins in Britain (Mattingly 1932; O'Neil 1936). However, it was not until the 1960s that these patterns began to be explored using any kind of systematic methodology. In an unpublished study of fourth century coin loss in Gloucestershire and Yorkshire, the coinage of the fourth century was assigned to seven chronological periods (Ravetz 1963, 55ff), which subsequently become Reece's Periods 15 to 21. Using this framework, average annual coin loss at individual sites was examined and three distinct patterns of loss identified (Ravetz 1963, 70). It was suggested that the size of a site, its longevity and to some extent, its function played a part in forming these patterns (Ravetz 1963, 108 & 114).

Reece expanded upon this study of site finds from the fourth century, by applying a framework of chronological groupings to the whole Roman period. His early analysis employed four phases of coinage with Phase A incorporating the stable period of the Augustan coinage system (up to AD 260), Phase B the *radiate* period (AD 260 to 294), Phase C the period of Diocletian's and Constantine's reforms (AD 294 to 330) and Phase D, the rest of the 4th century (AD 330 to 402) (Reece 1972; Reece 1974).

Using this aggregation method, Reece explored ways in which sites could be divided into groups exhbiting similar profiles. He suggested that both site function and geographical location were important in determining the composition of a coin profile (Reece 1988b, 102; Reece 1993a, 130ff; Reece 1995, 180). Indeed, despite its early introduction, aggregating issue periods continues to be a successful method which has demonstrated

differences between the profiles of towns and rural sites (Davies and Gregory 1991, 76) and to calculate the potential longevity of activity at a site (Walker 1988, 483). It is suggested that its success derives from the fact that the four phases reflect periods of coin use, rather than coin production (Lockyear 2007a, 219). For instance, coins minted in the late first century could still be in circulation in the early third century, so smaller chronological divisions could be redundant.

The development of a framework of chronological divisions, such as Reece's 21 periods and Casey's alternative 27 periods (Casey 1986, 90), has enabled coin assemblages to be subjected to more detailed chronological analysis. The proposed chronological divisions mean that nearly all coins from a site can be classified, from perfect specimens through to worn issues. As with his previous four phase system, Reece favoured the division of the Roman period into convenient coin production periods, whilst Casey's periods are linked more closely to the reigns of individual emperors. For example, Casey's period from AD 217-260 is divided into seven periods, rather than Reece's three. There are also some differences in the dating of copies, particularly Claudian copies and barbarous radiates. Table 1 notes the main differences between the two systems and summarises a table produced by Brickstock (Brickstock 2004). Reece's periods seem to have found wider acceptance amongst numismatists due to their simplicity although occasionally Casey periods appear in specialist reports (eg. Sparey-Green 2002). More recently, Brickstock has proposed an alternative framework of 36 periods which takes into account Severan copies, copies of Severus Alexander and barbarous radiates (Brickstock 2004). However, this framework has not been widely adopted.

With the framework of 21 Reece periods in place, it is possible to create profiles for individual sites. However, profiles cannot easily be compared as the total number of coins from each site can vary wildly. It is therefore

necessary to express the coins dating to each Reece period as a proportion of the total datable coins found. Although coins could be presented as a percentage, Reece found the generation of a decimal point to be a source of potential error in publication and therefore decided to work in coins per thousand (*per mill*) rather than percentages (Reece 1987a, 76).

2.10 The British Mean

Reece also pointed out that, to be able to interpret the fluctuations in coin loss by period, it was not only necessary for every profile to be comparable with every other profile, but for each to be measured against a background of coin loss for Britain. He therefore calculated a mean for Roman Britain, using coin totals from 14 sites (Reece 1972), then 88 sites (Reece 1987a, 82) before expanding further on this to calculate a 'British Mean', using 140 coin assemblages from Britain (Reece 1995). This mean has been widely accepted, and is employed extensively as a comparative source in studies of coin assemblages from Britain. In a recent report on the coins from Reculver, Kent, the use of the 'British Mean' has been developed further in order to identify normal and abnormal coin loss. Where the site exhibited values equivalent to double the 'British Mean' this was deemed to represent a chronological period of 'abnormality' (Reece 2005, 104).

Although an extremely useful reference point, there are problems with the data used to compose Reece's British Mean. The sites chosen for inclusion were, by and large, high status, military, urban, temple or villa sites, situated in south-eastern and central Britain. Very few lower status rural sites were included. Therefore, it is not necessarily a mean that is truly representative of coin loss across the province; rather it is largely a 'high status, urban and military mean'. Second, some of the assemblages chosen for inclusion were so peculiar that they have severely affected the *per mill* values. Richborough, for example, is notable in this respect, with 22,822 coins

recorded just for Reece Period 21, whilst the palace of Fishbourne unusually possesses vast quantities of early coins and radiates.

2.11 Cumulative frequency analysis

In 1995, Reece developed a further methodology, using Cumulative Frequency Analysis, to build upon his previous work with the British Mean (Reece 1995). This methodology allows the cumulative coin profile to be plotted against the background of the British Mean, on a single graph. Using this methodology, it is possible to see when and how each site deviates from the average Romano-British assemblage. Numerous sites can then be compared with each other, on a single graph, and sites with similar profiles grouped together. Using his '140 sites' data, Reece created 22 groups of similar profiles. He noted that certain sites appeared to produce similar profiles, although divisions were rarely clear cut and explanations as to why sites might act in a similar way were not offered (Reece 1995, 205). The method has found favour in excavation site reports and is very effective for displaying a single assemblage (Reece 2005, 105) or for comparing one assemblage with a small selection of comparative material (Guest 2008f, 138ff; Reece 2005, 107**).**

However, Cumulative Frequency Analysis is an extremely time-consuming method, if employed to analyse assemblages from a large number of sites. With Reece's data, it involves plotting a graph for all 140 sites and then grouping them visually before re-plotting each site as part of a group profile. To compare each of the 140 sites with every other site, would involve 9,730 individual comparisons (Lockyear 2000, 399). It is also very difficult to display groups of more than ten profiles clearly and effectively. Reece therefore restricted group size to ten assemblages, despite the fact that some might naturally contain far more. Lastly and more fundamentally, the identification of similar profiles, and associated sorting into groups, is completed by subjective judgement and is therefore not repeatable. It is

unlikely that any two numismatists would define the same groups, and even if they did, it is uncertain how valid their judgements would be, in a statistical sense (Lockyear 2000, 399).

2.12 Dating site activity

Despite the limitations of these methods, they have proved successful as a simple means of comparing and contrasting site assemblages, from excavations throughout Britain, and in charting the chronology of sites. Indeed, in much the same way as individual coins have been used by historians as dating indicators, the *per mill* profiles of individual sites have been embraced as a way of following the changing fortunes of individual sites, independent of other archaeological material or literary sources. Forts and military installations appear to be particularly popular subject matter, in this respect. Hence, coins have assisted in the re-dating of the foundation of the fort at Reculver in Kent to the AD 160s or 170s by comparing the *per mill* values for coins of Marcus Aurelius and Commodus with the British Mean (Reece 2005, 106). Similarly, unworn Flavian coins of the early AD 70s, from Ribchester and Carlisle, are used as evidence for their foundation by Petilius Cerialis, rather than Agricola (Shotter 1990, 116).

2.13 Diagnosing site function

A comparison of sites using these methods has also led to an acceptance amongst scholars that it is possible not only to date activity, but also to diagnose site function through examination of particular aspects of the coin profile. Reece has published most extensively, in this regard. Despite repetition and elaboration by other scholars, his work can be condensed into four broad observations about military, urban, rural and temple sites. These are summarised in Table 2.

Most military sites exhibit high levels of early coin loss – a situation one might expect if the army are considered the main users of coin supplied to

Britain in the first and second centuries AD (Davies and Gregory 1991, 71; Guest 2008f, 139; Lockyear 2000, 403 and 413). As a result, military sites as geographically remote from each other as Swanton Morley, Norfolk and Dodderhill, Herefordshire possess comparable coin profiles (Davies and Gregory 1991, 71) whilst the wide geographical spread of Claudian and Flavian coins, in Wales, can immediately be interpreted as a reflection of the militarisation of the landscape (Guest 2008g, 55). However, different patterns of loss are associated with later military sites, such as Severan foundations (Reece 2005) and Saxon shore forts (Davies and Gregory 1991, 77).

Urban sites have also been identified, not only by the sheer quantity of coins one might expect from a site type associated with both commerce and administration (Esmonde Cleary 1989, 95), but also through the proportion of third to fourth century coinage lost. Whilst rural sites exhibit lower coin loss in the late third century AD, in comparison to that recorded for the mid to late fourth century AD, urban sites act in exactly the opposite manner (Davies and Gregory 1991, 76; Reece 1987a, 91ff; Reece 1988b, 103) Reece 1993a, 130; Reece 1995, 180). This phenomenon has been particularly well illustrated in a regional study of Norfolk where all sites exhibiting this profile possessed features ‘in keeping with Romano-British urban sites’ (Davies and Gregory 1991, 76). However, as with military sites not all urban sites conform to a particular pattern. For example, excavated sites in Cirencester conform to a rural pattern (Reece 1987a, 94) and extra-mural settlement groups behave like rural sites (Reece 1987a, 22; Davies and Gregory 1991, 76).

The fourth century sees a significant increase in coin loss in rural areas. This has been used to suggest wider participation in the use of coinage and that the period marked an epoch of economic prosperity for the Romano-British countryside (Moorhead 2001a, 94ff). Rural sites can be identified by

their above average quantities of fourth century coinage and more specifically, by a major peak in coin loss in the period AD 330-348 (Moorhead 2001a, 90). However, beyond the quantities of coin recovered (Esmonde Cleary 1989, 94), little variation has been identified in the coin profiles of the individual site types which fall within the broad category of 'rural' such as farmsteads, villages and villas (Davies and Gregory 1991, 76). Indeed, Reece has gone as far as to say that 'coins from villas are indistinguishable from coins from other rural settlements, because apart from their stones and mortar, their chosen outward form, villas are normal rural settlements in a particular form (Reece 1988b, 106).

Coin profiles from temple sites have been argued to exhibit a pattern of coin loss reminiscent of rural sites in general (Davies 1985, 8). However, when more detailed assessment of temple coin profiles occurs, patterns do emerge. Temple sites in Wiltshire and Norfolk exhibit a peak in coin loss for the period AD 364-378 (Davies 1985, 8; Davies and Gregory 1991, 71), whilst, in contrast, watery votive deposits, such as those known from Westhawk Farm, Kent, The Sacred Spring, Bath, Coventina's Well, Northumberland and the River Tees at Piercebridge, County Durham are dominated by early and mid Roman coinage (Guest 2008f, 139; Walton 2008, 289). Early Roman coinage in temple assemblages with evidence of Late Iron Age activity has also been noted (Moorhead 2001a, 89; King 2008, 31).

2.14 International, national and regional differences

The degree to which Britain exhibits patterns of coin loss, which are different to the rest of the Roman Empire has been explored, using the framework of chronological periods and *per mill* values. Reece has shown that British sites 'stand well apart from the sites of the continent', with a few exceptions (Reece 1987a, 91 and 98ff), whilst a study of the coins from the Sacred Spring at Bath strongly suggests that the mint of Rome dictated coin supply

to Britain. Some issues, particularly *Britannia* types of Hadrian and Antoninus Pius, whilst numerous at Bath and on other sites in Britain, are scarcely found elsewhere in the Empire. Similarly, an analysis of the base metal coinage of Domitian shows that only the issues of AD 86-7 reached Britain in any quantity, in marked contrast to the situation on the Continent (Walker 1988, 287).

Mintmarks have also been employed to gain some idea of coin supply to Britain from different mints throughout the Empire. From the late third century onwards, mintmarks of coins produced in both Britain and the Continent have been used to chart fluctuations in the supply of coinage from different mints. For instance, when early fourth century coin loss from Richborough, Kent is tabulated by mint, it is apparent that in the period AD 317-324, there are more issues from Continental mints, particularly Trier, than from British mints (Reece 1987a, 119). It is suggested that, if one mint sent an official supply of coin to Britain between AD 320 to 355, the mint was Trier (Reece 1987a, 123). A similar analysis has been undertaken on an assemblage of coins from Lowbury Hill, Berkshire, with similar conclusions (Davies 1985, 7).

Despite the existence of a set of mean values for coin loss in Britain, regional variation within the province has also been observed. This includes the seemingly modern concept of a north-south divide. The intimate link between coin loss and military campaigning in the north west has been emphasised by Shotter (Shotter 1990, 117ff) whilst in studies of late Roman Britain, fourth century coin loss at northern rural sites is observed to be the exception, rather than the rule (Esmonde Cleary 1989, 94). Indeed, the coin profiles of military sites along Hadrian's Wall share in the 'general numismatic poverty of their region' rather than behaving in a specifically military fashion (Esmonde Cleary 1989, 96). In contrast, the proliferation of barbarous radiates and FEL TEMP copies, in the south, are used as

evidence of a flourishing rural, civilian economy (Esmonde Cleary 1989, 96). Differences between coin loss in eastern and western Britain have also been emphasised. The alleged scarcity of coins in East Anglia has been argued to be a reflection of diminishing coin use in eastern Britain in the mid to late Roman period whilst, at the same time, coin use in the west increased (Reece 1993a, 134). Indeed, a peak in the deposition of Valentinianic *nummi*, in the West Country and in Hampshire, has been interpreted as a reflection of the increased wealth of Wiltshire, stimulated by its involvement in the supply of towns, such as Cirencester, and the *annona militaris* (Moorhead 2001a, 94). This western prosperity culminates at the end of the Roman period, with a spread of sites scattered across the country, from Caerwent in the west, through Cirencester and the mid Cotswolds, and into the area of the middle Thames valley, as far as Berkshire (Reece 1987a, 96).

At a county level, variation is also present. Indeed, the use of distribution plots at a county level has been praised due to their ability to demonstrate 'a changing pattern of settlement and activity at particular stages, during the entire Roman period (Davies and Gregory 1991, 79). For instance in a study of Norfolk, distribution plots have demonstrated that southern Norfolk exhibits greater coin loss throughout the Roman period, by comparison with the north of the county, which has fewer coins especially in the early and late Roman period (Davies and Gregory 1991, 84).

2.15 Cluster Analysis and Correspondence Analysis

Two statistical methods, Dmax based Cluster Analysis and Correspondence Analysis have been suggested as an alternative to the numerical approaches outlined above. The primary output of the former method is the division of a set of objects into groups, whilst the variation within a set of objects can be investigated and displayed using the latter (Lockyear 2000). Both techniques have shown their usefulness in identifying Reece's five

main site types (Military, urban, rural, villa; temple) and confirm the validity of many of the diagnostic features expounded to identify site function. Using Cluster Analysis, military sites dominate the small early clusters, urban settlements dominate the middle clusters whilst the late clusters are associated with temples and rural sites including villas. Unusual assemblages, such as the votive deposit from Coventina's Well, Northumberland, are assigned their own groupings, thus reassuringly signalling their peculiarity (Lockyear 2000, 403). Correspondence Analysis produces similar results. Forts concentrate in the quadrant of the graph associated with above average numbers of early coins. *Civitas* capitals dominate the quadrant associated with early coins, particularly those from Reece periods 1 to 6 (pre AD 41– 138) but they also appear at the centre of the graph, suggesting they existed in all chronological periods. Rural sites are associated with the later quadrants of the graph, demonstrating that the earliest coin did not reach the countryside. Similarly, temples are plotted in the later quadrants, and appear to be particularly associated with coins of Reece periods 19 and 20 (AD 364-388).

Both statistical methods possess tremendous potential for sorting and analysing large groups of coin data. However, they are not a panacea and interpreting the results of Cumulative Frequency and Correspondence Analysis is still fraught with difficulties. The techniques will always produce groups and identifying the significance of such groups is key. As with the numerical techniques they are intended to replace, they can only provide an indication of the likely chronology or function of individual site profiles and must be employed with a full awareness of their limitations as well as their potential.

2.16 Conclusions

This chapter has highlighted the restricted way in which numismatic evidence has been interpreted in studies of Roman Britain. It emphasises

the need for a more inclusive approach, as espoused by Applied Numismatics, in which coins are used not only as dating indicators, but also as a tool for understanding both economic and socio-political themes. The analysis which follows in this thesis is an attempt to apply such an approach to the study of the province of *Britannia*.

Chapter 3

Using PAS and comparative data

3 Introduction

This chapter introduces the various datasets used in this thesis and outlines the complexities involved in analysing them successfully. Discussion is separated into two sections. In the first section, the composition of the datasets is summarised. Further, the processes followed to prepare each for analysis and the numerical and statistical tools used to undertake analysis are described in full. In the second section, the key biases and constraints affecting Portable Antiquities Scheme data and issues associated with using metal detecting data as an archaeological resource are explored.

3.1 The Portable Antiquities Scheme

The data used in this thesis are primarily the product of work carried out by the Portable Antiquities Scheme (hereafter PAS). The PAS was established in 1997 to record archaeological objects, found by members of the public, and offers the only proactive and comprehensive mechanism for systematically recording such finds in England and Wales. It aims to:

> a) promote the maximum public interest and benefit from the recovery, recording and research of portable antiquities;
> b) promote best practice by finders/landowners and archaeologists/museums in the discovery, recording and conservation of finds made by the public;
> c) in partnership with museums and others, raise awareness among the public, including young people, of the educational value of recording archaeological finds in the context and facilitate research in them;
> d) create partnerships between finders and museums/archaeologists to increase participation in archaeology and advance our understanding of the past; and
> e) support the Treasure Act, and increase opportunities for museums to acquire archaeological finds for public benefit (Lewis 2009, 12).

The structure of the Scheme comprises a central unit of specialist advisors, IT support and administration, coupled with a team of 40 Finds Liaison Officers. These Finds Liaison Officers are based with local host partner organisations and are responsible for recording objects onto the PAS database. Portable antiquities in all materials, dating to before 1700, are eligible for recording. However, as 63.8% of finders are metal detector users, there is a bias towards metallic objects (Portable Antiquities Scheme 2006). On the 5th August 2010, there were 634,238 objects published on the Scheme's website (www.finds.org.uk accessed 05.08.10), offered for recording by 4,328 metal detector users and 2,542 other finders.

3.2 The PAS dataset of Roman coins

The primary dataset used in this thesis comprises a total of 57,993 Roman coins from 2,719 English parishes, recorded between 1997 and 1 March 2008, by the PAS. Since 1 March 2008, a further 32,466 Roman coins have been recorded by the PAS and this figure continues to grow.[3] These have not been integrated into analysis, although on occasion, reference is made to the additional contribution this data could make. The 53,165 coin records from Wales have also been excluded from study in order to avoid duplication of analysis being undertaken by Cardiff University's *Iron Age and Roman Coins from Wales* project (Guest 2008g). However, two nationally important assemblages of coins awaiting data entry in March 2008 from the parishes of Piercebridge, County Durham and Old Winteringham, North Lincolnshire, were used. The distribution of the PAS dataset is illustrated by Figure 1.

All coin records were downloaded from the PAS database as a .csv formatted file on the 10 March 2008. This .csv file was then exported into a Microsoft Access database and the supplementary data from Piercebridge

[3] www.finds.org.uk query on Roman coins undertaken on 8.12.10. Sam Moorhead, National Finds Advisor for the PAS is encouraging detector users to report all coins for recording, leading to increasing numbers.

and Old Winteringham entered manually. Considerable effort was expended in preparing the data for analysis. Due to the size of the dataset, no systematic attempt was made to check all records. However, they were subjected to low level validation and enhancement to ensure their basic accuracy. For example, individual entries were created for groups of coins recorded under a single record, whilst those without parish level findspot data, were deleted. Treasure cases were also removed, where notes in the record enabled their identification. However, not all hoards were identified at this initial data cleaning stage. The Cluster Analysis discussed below, highlighted the presence of eleven hoards or potential hoards (a total of 2512 coins) remaining in the dataset. These hoards are listed in Table 5 and have been removed from further analyses.

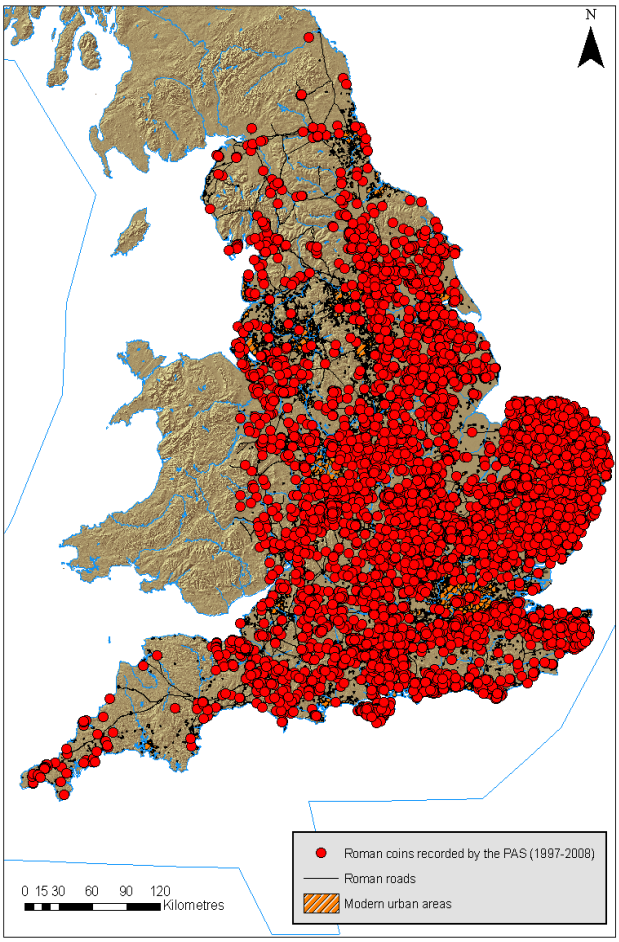


Figure 1: All Roman coins recorded by the PAS between 1997 and 2008

One of the main aims of the validation process was to check the accuracy of existing grid references and to add grid references to records where possible. 2,899 coin records assigned to a parish on the database lacked an accompanying grid reference, despite guidance from the PAS instructing Finds Liaison Officers to allocate such records a 'centre of parish grid reference'. These records were therefore given a 'centre of parish grid reference', to allow their distribution to be analysed at a national and regional level. Obvious errors in existing findspot data, usually caused by mis-typing of grid references, were also corrected, where possible. Not all errors will necessarily be evident and therefore some may remain embedded in the dataset. However, these are likely to be few and far between and thus should not adversely affect the overall distribution pattern.

3.3 Reece periods

The framework of 21 Reece periods, familiar to most numismatists, has been used throughout this thesis, to enable effective numerical and statistical analysis of all coins recorded. At an early stage, the possibility of devising an alternative system of organisation, based on the year of issue of each coin, was discounted, due to the variable accuracy of dates recorded for each coin by the PAS. At the time of data collection, Reece period data were not recorded by the PAS and therefore a 'Reece period' column was added to the Access database.[4] Where possible, coins were then assigned to a Reece period on the basis of their date of issue. From a total of 57,993 coins, it was possible to assign 40,679 coins. The remaining 17,314 coins were either too worn or corroded to date accurately, or too poorly described, to confidently assign to a Reece period.

[4] The new PAS database launched in March 2010 includes a field for Reece period data which will make future study far simpler.

3.4 The geographical organisation of PAS data

All data have been organised using the geographical units of 'County' and 'Parish', using the framework adopted by the PAS database. It is acknowledged that there are methodological issues regarding the use of these modern administrative divisions, as they are unlikely to bear any relation to the boundaries and regions of the Roman period. However, the organisation of the dataset to avoid such anachronisms would also be problematic. For example, the use of measured transects of land as employed in archaeological landscape studies of East Yorkshire (Halkon 2008), Lincolnshire and Nottinghamshire (Taylor 2007) would demand significant data manipulation, whilst the use of *civitas* boundaries, which are uncertain and likely in any case to have been affected by the various provincial reorganisations, (Jones and Mattingly 1990, 141ff) would also be methodologically unsound.[5]

A total of 2,719 parishes possess records of Roman coins. Each parish has been assigned an unique identifier comprising a county prefix of three letters, followed by a four digit number. For example, DUR0007 represents the parish of Piercebridge, County Durham. Of these parishes, 446 have assemblages of 20 or more coins (when hoard data were removed) and it is these assemblages that form the dataset for numerical and statistical study. Throughout the thesis, they are referred to as 'Parish profiles', and their distribution is presented in Figure 2. Parish profile size has been limited to groups of 20 or more coins, in order to aid numerical and statistical analyses rather than as part of an attempt to define sites using a quantitative approach. Indeed, it should be stressed that the 'Parish profile' is not intended to represent the pattern of coin loss for individual sites, found within parishes, but to characterise coin loss in small, relatively comparable geographical units. This follows a similar methodology to the Viking and

[5]There is no accurate means of measuring the geographical extent of the territory of each *civitas* nor of establishing whether their boundaries remained the same throughout the various reorganisations of the province (see Jones and Mattingly 1990, 154).

Anglo-Saxon Landscape and Economy Project (VASLE) where only parish level data was analysed, due to time constraints associated with the mapping of individual sites within parishes (Naylor and Richards 2010).

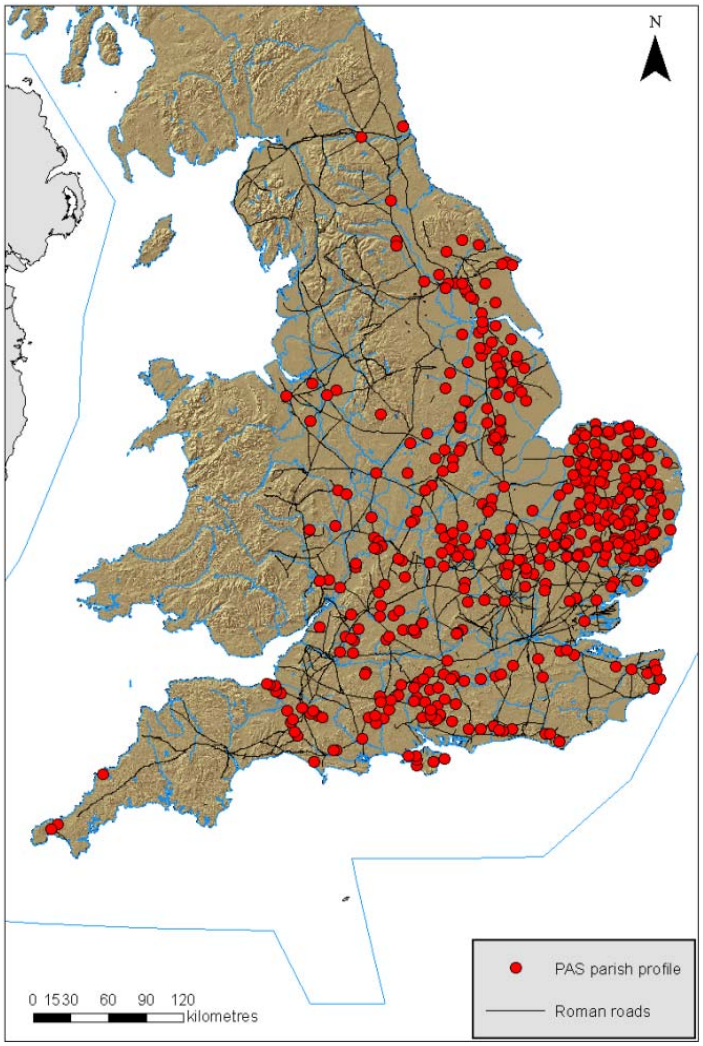


Figure 2: The distribution of PAS parish profiles

While a base line of twenty coins was selected for this study, it is clear that there is considerable debate amongst numismatists about the number of coins necessary, to undertake numerical and statistical analysis. Casey states that 200 coins are needed for analysis to work well (Casey 1986, 89). Reece has argued that assemblages containing more than 100 coins should

be favoured, as smaller groups 'make far too much numerical noise' (Reece 1991b, introduction), but now agrees that groups of twelve or more coins can produce acceptable profiles (Reece *pers comm.*). Concentrating on totals of more than 100 coins, would exclude most PAS parish profiles, particularly in areas such as the north west and south west where volumes of coin loss are low throughout the Roman period. Therefore, the decision here to include parish groups with as few as 20 coins, was governed by a desire to interrogate as much data as possible, from as many areas as possible, while excluding small numbers of coins most exposed to biases in the PAS dataset discussed below.

3.5 The collection of a comparative dataset

A comparative dataset comprising 367 coin assemblages and a total of 223,655 coins has also been collected. All coin assemblages were stored in a Microsoft Excel worksheet, with each assemblage allocated a unique identifier, comprising the prefix 'C' and a three digit number (eg. C001 – Bath Sacred Spring). A gazetteer containing details of all sites can be found in Appendix A whilst their distribution pattern is illustrated by Figure 3. At the core of the comparative dataset, is the summary of coin lists published in Reece's *Roman coins from 140 sites in Britain* (Reece 1991b). This comprises coin data from forts, temples, towns and villas, as well as some unclassified rural sites. These lists have been supplemented by coin reports from a variety of research excavations, published between 1991 and 2008, as well as unpublished coin lists from development control excavations, prepared by James Gerrard, Peter Guest, Paul Booth, Nick Cooke and other specialists, at Wessex Archaeology, Oxford Archaeology and Pre-Construct Archaeology.

The creation of a comprehensive comparative dataset, that incorporated the level of detail, recorded by the PAS records, was outside the scope of this study. Therefore, only totals of coins, by Reece period were collected and

indeed, several assemblages were rejected because they were not presented in a Reece period format nor could they easily be converted to one. Other assemblages, such as that from Piddington Roman villa (Friendship-Taylor 2008), have been included despite the ambiguity of some of the identifications.[6] The majority of assemblages in the comparative dataset comprised 20 or more coins. However, 23 smaller assemblages have been included from areas where few Roman coin assemblages have been published, such as Cornwall. These smaller assemblages range in size from six to nineteen coins.

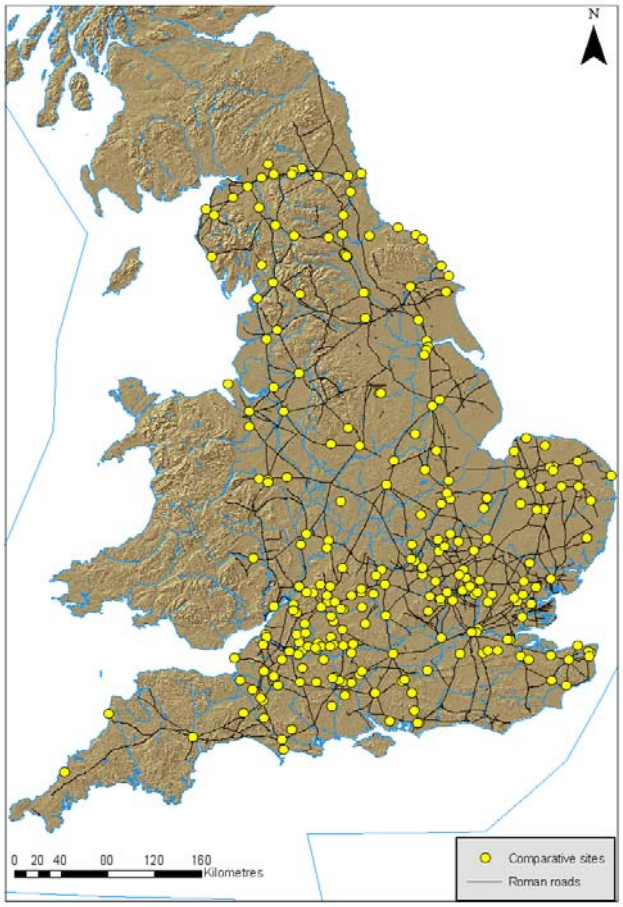


Figure 3: The distribution of comparative sites

[6] 265 coins from Piddington are described as '*minims*' with no further dating information offered. It is possible that these records refer either to Period 14 barbarous *radiates* or Period 18 FEL TEMP REPARATIO *nummus* copies.

All comparative sites were assigned to one of five functional categories following the framework established by Reece (Reece 1991b) and employed by other scholars such as Eckhardt to investigate the 'social distribution' of objects (Eckhardt 2005). The functional categories used were 'Military', 'Urban', 'Villa', 'Temple', 'Rural not otherwise classified'. Although this framework allows basic functional analyses to be undertaken, it should be emphasized that it is simplistic, and sites cannot always be categorised easily. For example, it has been difficult to assign sites with votive connotations, but no temple architecture, such as Coventina's Well (C258), Stonehenge (C356) and Silbury (C352/C353) to any of Reece's functional categories. Furthermore, some sites such as Cosgrove (C253) and Littlecote (C346) may have changed function over time or served a variety of functions. Temple complexes were frequently associated with settlements of varying sizes and complexity (eg. The Sacred Spring, Bath) and military sites frequently had associated civilian settlements. There are also difficulties with defining what some functional categorises actually represent. This is particularly true of the 'villa'. In recent years, there has been a reappraisal of the function and usage of such sites and their relationship with other rural settlement types (Reece 1988b, 106). The concentration on classifications based on site plan has been criticised (Taylor 2001a, 49) as has the projection of anachronistic interpretations of evidence into the Roman period (Branigan and Miles 1988, 3).

There are two sources of error in the comparative dataset. First, the coin totals for C228 (Venta Interior) are a partial duplication of those in C215 (Caistor by Norwich Internal 53). The duplication arose from a typing error in the published summary of coin totals for C228 (Davies and Gregory 1991, 99). This led to the assumption that it represented an assemblage in its own right separate from that recorded by Reece (Reece 1991b). C228 has been removed from numerical analyses but was mistakenly included in the Cluster Analysis. Secondly, four groups of fewer than ten coins, which were

intended to be supplementary to larger assemblages in the comparative dataset, were assigned their own 'C' numbers. These groups were also identified by the Cluster Analysis as being peculiar, and have been removed from further analysis.

3.6 Combining the two datasets

The amalgamation of the two datasets illustrated in Figure 4 creates the most comprehensive collection of Roman coin data available, at present, for the study of coin loss, throughout the province of *Britannia*. The dataset comprises 813 parish profiles, or site assemblages and a total of 261,822 coins. Whilst this total may only represent a very small sample of the original coin population of Roman Britain, its absolute size makes it significant.[7] The national coverage of the PAS ensures that there is a broad geographical spread of assemblages and the use of both metal detecting and excavation data means that a wide range of site types from both urban and rural contexts are available for study.

Counties such as Lincolnshire, East Yorkshire, Nottinghamshire and the Isle of Wight exhibit far greater volumes of Roman coin loss than previously recorded, whilst the level of material from East Anglia is particularly striking. Reece published coin lists, for only four sites in Norfolk, Suffolk and Cambridgeshire, and suggested that the absence of coin assemblages was a genuine reflection of both low levels of ancient coin use and loss in the region, in the mid to late Roman period (Reece 1991b, 107). However, the PAS dataset includes 169 parish profiles from East Anglia, with coins of all periods represented, indicating that this theory cannot be valid. Indeed, if it were possible to include all Roman coins recorded by the Norfolk Historic

[7] The total original coin populations at the forts of Corbridge and Caerleon have been calculated on the basis of military pay rates. Using these calculations, it is estimated that 0.003% of the original coin population from Corbridge and 0.00000034% from Caerleon survive (Casey 1986, 84ff.)

Environment Record, but not added to the PAS database, the total number of coins would be higher still.

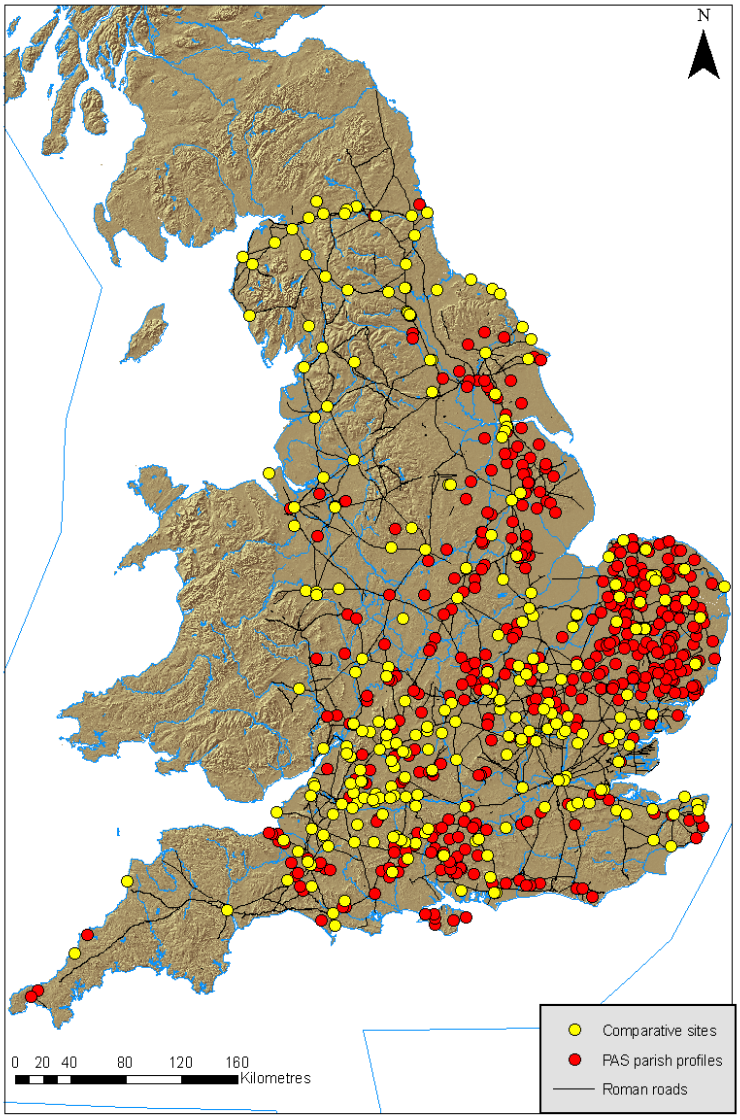


Figure 4: The distribution of PAS parishes and comparative sites

Whilst there are numerous benefits associated with using the combined dataset, it has two obvious limitations. These arise from differences in both the level of detail recorded and the spatial definition of what each assemblage represents. Firstly, as the comparative dataset comprises totals of coins only by Reece period, denominational and mintmark analysis is not

possible and must be based on the PAS dataset alone. Future studies would benefit from the collection of a dataset with all details for coins in the comparative dataset. Secondly, the geographical units represented by PAS parish profiles and comparative site assemblages are not strictly equivalent. The former relate to geographical units of coin loss whilst the latter reflect coin loss at excavated archaeological sites of varying size and function. This needs to be remembered, particularly when the results of the Cluster Analysis are analysed.

3.7 Other sources of data used

Two further sources of data are used regularly throughout this thesis. Despite the traditional distinction between hoard and site find evidence, hoards have been employed, as an additional source of information, in the study of both coin supply and circulation. Hoard details have been collected from a variety of sources, but Robertson's *Inventory of Romano-British Coin Hoards* (Robertson 2000) and unpublished reports for Treasure finds recorded since 1997, were the most frequently consulted. Furthermore, whilst this thesis concentrates on Roman coinage, it would be unwise to study numismatic evidence in total isolation from other aspects of Roman material culture. Therefore, records of Roman artefacts and pottery recorded by the PAS have also been included in this study, where appropriate. Chapter 9, which explores coin loss on the Isle of Wight and Chapter 10, which analyses a votive assemblage from Piercebridge, have both made full use of non numismatic finds' data, in order to assist in dating and site characterisation.

3.8 Numerical and statistical techniques used

The aim of this thesis is to explore the potential of the PAS dataset as a resource for understanding Roman Britain, rather than to develop new 'Applied Numismatic' techniques. Therefore, the simple numerical methods

developed by Richard Reece have provided the foundation for analysis throughout this thesis.

3.8.1 *Per mill* profiles

The bulk of analysis in this thesis uses *per mill* (coins per thousand) values, to calculate national and regional means, as well as parish and site profiles by volume and chronology. The technique requires that the total number of coins in each period is divided by the total number of coins in the assemblage, and multiplied by 1000. Parishes and sites with above average coin loss in each period have also been identified, using a technique developed by Reece (Reece 2002, 147) and employed in his report on the coins from Reculver (Reece 2005, 103ff). This method identifies any value, which is twice the British mean as representing 'above average' coin loss. In this thesis, values which are twice the PAS Mean are also considered 'above average'.

The use of *per mill* values has also been adopted to investigate fluctuations in the proportions of each denomination, lost in each Reece period, at a national and regional level. The total number of each denomination, in each period, is divided by the total number of coins in the assemblage and multiplied by 1000, to create denominational means. This technique is an innovation and has been developed by the author for use in this thesis. It is limited in its application, to coinage of the Augustan system (Reece periods 1-12) where there is a defined tri-metallic currency, and to assemblages of more than 100 coins. It is therefore most useful for comparing the denominational composition of assemblages, at a national and regional level, rather than on an individual site basis.

The use of *per mill* values and mean values in general is not without a broader methodological shortcoming. This is the problem of 'closure', whereby the relative proportions of coinage in each period are influenced by

proportions in earlier and later periods (Lockyear 2007a, 217). For example, the coin assemblages from the River Tees at Piercebridge (DUR0007), and the excavated site (C066), discussed in Chapter 10, appear to have very different *per mill* profiles for the early Roman period. However, this difference is due, in part, to the above average coin loss in the third and fourth century AD in the excavated assemblage. Although such a shortcoming cannot be eliminated from a study with overwhelming reliance on the use of average values, an awareness of its potential effects is invaluable in approaching the interpretation of individual assemblages, and their comparison with others.

3.8.2 Dmax-based cluster analysis

In addition to the calculation of individual *per mill* profiles, Dmax-based cluster analysis (CA) has been employed to group all PAS and comparative profiles together by their level of similarity. The use of CA, to group archaeological finds' assemblages, is not uncommon. For example, mills from Pompeii were analysed using the technique (Peacock 1989). However, in numismatics, its use has been restricted to the study of hoards and site finds undertaken by Lockyear (Lockyear 1995; 1996a and b; 2000; 2007b). The results of CA are comparable with those achieved using Cumulative Frequency Analysis, where profiles are grouped by the similarity of their Cumulative Frequency curve (Reece 1995; Guest 2008f). However, the advantage is that CA is a statistically repeatable technique and can be applied to large numbers of assemblages (Lockyear 2000).

The cluster analysis used in this thesis was a type of hierarchical agglomerative analysis, i.e., the clustering algorithm used starts from individuals, successively adding them to new groups, and the resultant clusters are arranged in a hierarchical series of ever larger groups. This form of cluster analysis has two stages. First, it is necessary to calculate a matrix of similarities or dissimilarities between each individual and every

other individual and then second, the clustering of those individuals into groups on the basis of those measurements can be made.

In this analysis the measure of dissimilarity used was the Kolmogorov Smirnov distance (Dmax). Dmax is defined as the maximum difference between two cumulative proportion curves (Lockyear 2007b, fig. 6.1). When Dmax=0, there is no difference between the two individuals and where Dmax=1 the two cumulative proportion curves do not overlap. For the use of this measure to be valid, the data must be of an ordinal or higher data type.

The matrix of Dmax values was calculated in the statistical package R using a bespoke algorithm written by Kris Lockyear. Clustering was achieved using the well-known average linkage method (Orton 1980, 47-52; Shennan 1997, 239-40; see Lockyear 2007b, 180-3 for a discussion of the use of Dmax/average linkage in coinage studies). The AGNES command within the R package CLUSTER was used.

For the purposes of this thesis, the combined dataset of 823 sites and parishes was run through CA. The resulting dendrogram presented in Figure 5 was then cut at a height of 30 (H30) to produce a manageable total of 24 individual groups. As occurred in previous published Cluster Analyses (Lockyear 2000, 401), the technique produced two large cluster groups, several smaller groups and some singletons. Further analysis of the singleton groups indicated that they were all hoards which had not been removed from the dataset during data cleaning or groups of fewer than twenty coins that were intended to be addenda to larger assemblages. The dendrogram was then cut at a height of 20 (H20) to produce 62 sub-groups. This enabled more detailed analysis of the composition of groups identified at H30. Table 3 summarises the composition of CA groups at a Height of 30 and 20, whilst Appendix B lists all PAS parishes and comparative sites by Group when the graph is cut at a Height of 30 and 20.

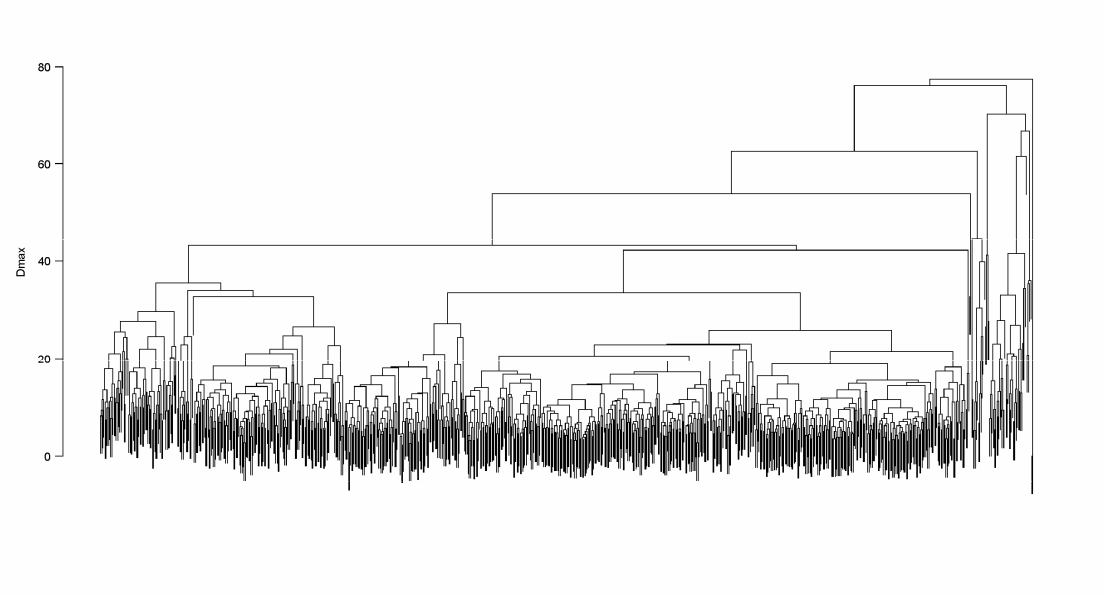


Figure 5: Cluster Analysis dendrogram for PAS parishes and comparative sites

3.9 The selection of study areas

Due to the size of the combined datasets and the complexity of the patterns produced by the data, it has not been possible to explore every avenue of research. Instead, this thesis concentrates on six case-studies, which clearly illustrate the potential of coin evidence, for understanding Roman Britain. Four chronological case-studies were selected to provide a snapshot of patterns of coin loss, at key moments during the development of the province of *Britannia*. They include an analysis of the national distribution of Republican and Claudian issues (Chapters 5 and 6), Carausian and Allectan coinage (Chapter 7) and mid to late fourth century *siliquae* and *nummi* (Chapter 8). These chronological chapters are supplemented by two further case studies in which many of the issues and themes identified in the chronological chapters are developed. The first case-study comprises a regional study of Roman coin loss on the Isle of Wight, whilst the second explores the composition and context of a single assemblage from Piercebridge, County Durham.

3.10 Site definition using the PAS dataset

Throughout this thesis, the PAS parish profile acts as an effective measure for exploring coin loss patterns, at both a provincial and a regional level. However, such a measure cannot be used effectively, either to identify or to characterize individual 'sites', within a parish. Indeed, a single parish may contain several sites with different functions and chronologies, whose individual patterns of coin loss will be obscured, by the geographical breadth of the parish profile. Therefore, a simple quantitative approach to site definition has also been adopted, to enable the identification of foci of coin using activity, at a sub-parish level. This approach follows Historic Environment Record criteria for site classification using artefact scatters that fall within a measured area (Payne *pers comm.*; Poppy *pers comm.*). In this case, clusters of five or more coins, located within 200 metres of each other, are considered to indicate the presence of a 'site'. For the purposes of this thesis, a 'site' is broadly defined as any focus of human activity indicated by Roman coin loss. Unfortunately, the nature of PAS data means that it is not possible to advance a more nuanced definition and therefore other categories of archaeological data such as aerial photographic records and Historic Environment Record details, will be used to provide an additional level of interpretation.

As with any methodology, employing a quantitative approach to site definition is not without its problems. First, as the presentation of mean values in Chapter 4 clearly demonstrates, the number of coins in circulation in Britain, during the Roman period, varied from century to century, from area to area and from site to site.[8] Coin volumes peak in the late third and early fourth century AD, and are more numerous on sites in southern and eastern Britain. Therefore, the use of totals of coins, as an indicator of the

[8] Sites in the Fenland of Cambridgeshire have to be very high status in nature to produce coins (Davies and Gregory 1991, 90) whilst a substantial building complex including a bath house recently excavated in Bedford Purlieus Wood near Peterborough for Channel 4's *Time Team* did not produce a single coin.

presence or significance of a site may be flawed. As a methodology, it is likely to favour the identification of late Roman sites over early ones, and south-eastern sites over northern. This is illustrated in Chapter 9, where an investigation of sites in three parishes, on the Isle of Wight, demonstrates a direct relationship between the size of the assemblage and its date.[9] Secondly, a quantitative approach fails to take into account, that there may be an inverse relationship, between the number of finds in the plough-soil and the preservation of a site. The less damaged a site is by agricultural activity, the fewer the number of finds which will appear on the surface (Barford et al 2000, 77). Therefore, the detection of only small numbers of coins, or their total absence, does not necessarily equate to an absence of Roman activity, at a site or in a particular area.

3.11 Using the dataset: biases and constraints

The discussion above regarding site definition, highlights just one methodological problem, associated with using PAS data. The dataset is also subject to a range of further interpretational issues and biases. These can be identified at four stages in the 'life' of a coin; first, when the coins are deposited or lost; second, when the coins are in the ground; third, when the coins are recovered from the ground and fourth, when they are recorded.

3.11.1 Depositional biases and constraints

At the point of deposition, there are a number of factors which may affect the volume and distribution of coins. Firstly, archaeologists tend to assume that most Roman coins enter the ground as the result of accidental loss during economic activity, hence the use of the phrase 'coin loss' in the academic literature. Although this *may* be the most common means, some caution must be exercised in always employing such an interpretation. In addition to the deliberate deposition of coin hoards, it is evident from excavations at religious sites, such as the Sacred Spring, Bath (Walker

[9] Early Roman sites all possessed assemblages of only 5 coins.

1988) and Coventina's Well (Allason-Jones and McKay 1985), and of burials (Brown 2008), that coins were also deposited for votive or ritual purposes. Furthermore, coins are frequently found in rubbish deposits. Some scholars interpret this as an indication of the regular cleaning of busy market areas (Casey 1986, 81), whilst others suggest it may indicate deliberate discard of unwanted or devalued coinage (Gardner 2007, 68). Whatever the case, it is clear that not all processes of deposition can be described as simple loss, or interpreted in simple economic terms. The quantity of coins at a site at a particular time cannot necessarily be equated with its level of prosperity. Indeed, some scholars have interpreted peaks in coin loss in a particular period, not as a reflection of economic success, but as an indication of social dislocation and unrest (Laycock 2008, 140). Bearing these issues in mind, throughout this thesis, the phrase 'coin loss' will be used as an umbrella term to describe a whole range of potential depositional processes.

Secondly, the quantity of coins and denominations as found may not accurately represent proportions of coinage circulating in the Roman period. Casey has noted that the way in which losses occur is not random, and that patterns can be observed, which are created by factors intrinsic to all coinages (Casey 1986, 69). Hence, coin losses are proportional to the volume of coinage originally minted, and to the value of those coins. Gold coins are very rarely found in site-find contexts and silver is not common. This is partially a reflection of the fact that there were fewer precious metal coins circulating throughout the Roman period. However, because of their value, more effort would be expended in retrieving them, if lost. Regional, political and economic factors prevailing during the circulation lifetime of the coins, may also play a part. Hence, radiates of the British usurpers Carausius and Allectus, are more commonly found in Britain, than in other parts of the Roman Empire.

Thirdly, due to longevity of circulation, the date of issue for many Roman coins (and therefore the Reece period to which they are assigned) may bear little relation to their date of deposition. The study of site finds from Hadrian's Wall has demonstrated the continued circulation of Flavian coinage into the 120s AD (Casey 1986, 107), and it is not unusual to find coins which are well over seventy years old, in hoards (Walker 1988, 282). Indeed, the time span of coins found in hoards, as illustrated by Figure 6 demonstrates that between the first and third centuries AD, coins circulated for long periods of time. Whilst debasements in the second century AD led to the systematic removal of pre-AD 64 coins from circulation, the debased legionary *denarii* of Mark Antony, remained in use (Lockyear 2007a, 218). In the third and fourth centuries, after the collapse of the Augustan coinage system and various coinage reforms, coins remained in circulation for much shorter periods of time. Throughout this thesis, when a coin is referred to as a Period *x* coin, the implication is that it is a Period *x* issue rather than a Period *x* loss.

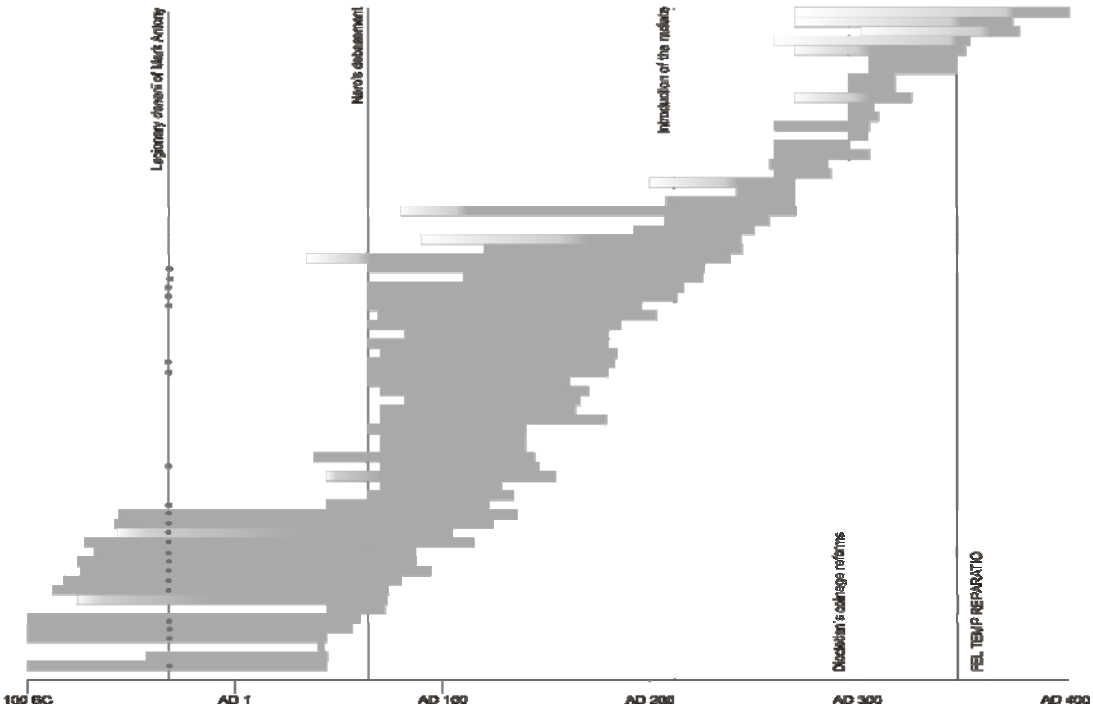


Figure 6: The time-span of coin hoards (from Lockyear 2007, 220)

3.11.2 Post-depositional biases and constraints

After their deposition, coins are subject to a range of post-depositional processes, which may affect their distribution in the ploughsoil and their relationship with archaeological deposits (Haselgrove 1985). For example. disturbance caused by deep ploughing may affect the spatial relationship between ploughsoil artefact scatters and sub-surface archaeological features (Taylor 2000, 17). Furthermore, geo-morphological disturbance, erosion, subsidence and animal burrowing may also impact upon the composition and location of surface scatters (Taylor 2000, 24), whilst manuring processes may introduce material with no archaeological relationship whatsover to the area in which it is deposited (Haselgrove 1985, 16).

3.11.3 Collection biases and constraints

As has already been noted, the coin data recorded on the Portable Antiquities Scheme database, is almost exclusively the product of metal detecting and this also creates a number of potential biases. Constraints (such as conurbations, woodland, lakes, ‘danger zones’ and the limits of ploughzone farming) have a profound effect on the collection of data. For example, Greater London affects distribution patterns in the south east (Naylor and Richards 2010), whilst the effects of legislative restrictions of English Heritage, Natural England, DEFRA and the Ministry of Defence, which prohibit detecting in large swathes of the country are also clearly visible (Gurney 1997, 530). All these need to be taken into consideration when interpreting the geographical distribution of Roman coins, or their absence.

In addition to the geographical bias caused by land-use and terrain, the tendency of metal detector users to concentrate their efforts on areas with known archaeological activity, will also affect distribution patterns and national coverage (cf. Davies and Gregory 1991, 67). Knowledge of existing

Romano-British sites may be increased rather more frequently than new sites discovered, although of course, not all detector users are looking for specifically Roman material. This same issue of concentration on known sites, is also a problem at a micro-level where detector users will return repeatedly to productive areas of particular fields. Indeed, many detector users do not follow a methodical system when surveying a site, but instead will wander at will. If one part of a field is found to produce large numbers of finds, they will concentrate on detecting there, to the detriment of other areas.

The skill of the detector user in retrieving objects may also create bias in the dataset. Therefore, the number of coins recovered may indicate as much about the skill of the detector user, the quality of their machine and the time they spend detecting, as it does about the actual profile of a site. Small, corroded radiates and *nummi* produce a much poorer signal on a metal detector than larger, heavier bronze denominations of the first to third centuries AD. Therefore, smaller assemblages of coins, particularly from only partially detected sites, are likely to be dominated by coins dating to the first, second and early third centuries AD. When a mean calculated for parishes with fewer than 20 coins is compared with the PAS as in Figure 7, it is clear that this is the case. Until Period 12 when radiates are introduced and *sestertii*, *dupondii* and *asses* phased out, the *per mill* values for coins recovered from parishes with fewer than twenty coins far surpass the *per mill* totals of those parishes with more than 20 coins.

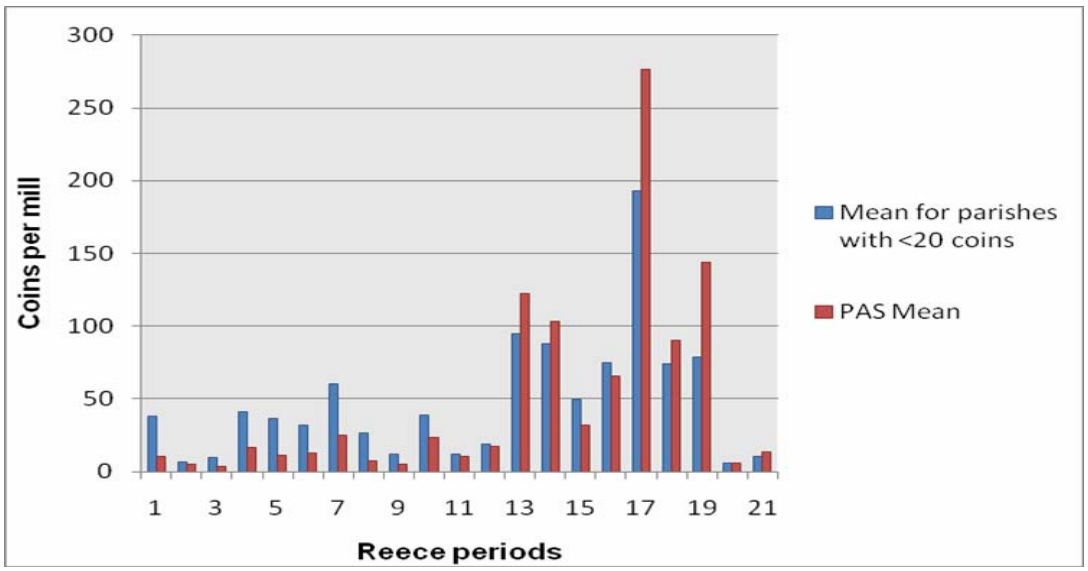


Figure 7: The PAS Mean compared with a mean calculated using parish assemblages of fewer than 20 coins

3.11.4 Recording biases

When objects come to be recorded, several further biases come into play. First, it is clear that the evolution of the PAS, since 1997, has had a major impact on the distribution of Roman coins recorded. For example, regions which have employed a Finds Liaison Officer since 1997 or 1999, as well as adjacent areas or counties where there have been long term good relationships between metal detector users and archaeologists, all have higher densities of coin loss. This pattern was also noted by the Viking and Anglo-Saxon Landscape and Economy Project, which used PAS data extensively (Naylor and Richards 2010, 2.6.1).

Second, although the total number is impossible to estimate, it is likely that numerous Roman coins are found by detector users, and are never offered for recording.[10] It is also important to note that when detector users do decide to record objects with the Portable Antiquities Scheme, they often

[10] It is also possible that coins are offered for recording with false provenances. However, the total number of coins in the dataset with such false provenances is likely to be small and therefore should not affect the results of numerical and statistical analysis.

make subjective judgements, regarding what is worthy of recording. Frequently, they will offer their best coins, such as Republican *denarii* and large attractive bronzes first, whilst holding back corroded radiates and *nummi*. There is a widely held perception that very little useful information can be gleaned from third and fourth century coins, due to their ubiquity. This behaviour has been outlined in a study of Norfolk, where the character of casual finds was compared with that of finds from excavations. The casual finds did not appear to be representative of the original coinage pool. Rather, they were biased towards the more unusual and attractive types, which finders considered it worthwhile to report (Davies and Gregory 1991, 79).

The research interests, workloads and expertise of Finds Liaison Officers will also affect the quantity and quality of Roman coin data in each area. Although all Finds Liaison Officers are trained in the identification of a full range of Roman coins, it is inevitable that some will develop higher levels of expertise or interest, than others. The degree of accuracy with which some worn coins will be identified will vary. For example, it appears that some Finds Liaison Officers have difficulty recognising *nummi* of the House of Theodosius, particularly VICTORIA AVGGG and SALVS REIPVBLICAE issues which are often very small and corroded. These have occasionally been recorded as Period 19 SECVRITAS REIPVBLICAE issues instead and this has led to a possible under-representation of Period 21 coins in the PAS dataset.

The recording practices of Finds Liaison Officers also vary from region to region. In Norfolk, due to the large number of objects offered for recording, only the ‘unusual, the intrinsically interesting, the well preserved and the significant’ will be entered onto the PAS database, whilst the remainder are either stored as paper records or added to the Norfolk Historic Environment Record (Erica Darch *pers comm*). This approach will obviously affect the

interpretation of distribution patterns created for the region. This becomes particularly evident in the study of *siliquae* in Chapter 8, where it is not clear whether the lack of clipped *siliquae* from the region is an accurate reflection of ancient patterns of coin loss or merely the result of selective data entry.

Chapter 4

Exploring Mean values

4 Introduction

This chapter is devoted to an exploration of mean values for coin loss, in Roman Britain. These means play a fundamental role in all analysis undertaken in this thesis. They establish the usual or 'average' pattern of coin loss, and can therefore be employed as a background against which unusual patterns of coin loss at a national, regional or site specific level can be measured. They may also provide some insight into patterns of coin supply to the province, and can be used to assess the extent to which supply and circulation is affected by chronology, geography and the identity of the users of coins.

The chapter is divided into two sections. The first section presents and compares four national means for Roman coin loss, calculated using both comparative material and the PAS dataset. It then explores the extent to which regional variation in coin loss can be identified in the PAS data by presenting means calculated for the areas to the north and south of the Fosse Way and for four English counties. The second section outlines a new method for calculating national and regional denominational means for the Augustan coinage system. It then compares them with the conclusions reached by other studies regarding the supply and use of different denominations in Britain. The data used to calculate all means is summarised in Table 4.

4.1 Reece's British Mean

Approximately forty years ago, Reece noted a pattern of coin loss peculiar to lowland Britain, calculated using 14 coin assemblages (Reece 1972, 273). This pattern was refined and explored further, using 88 site assemblages (Reece 1987a, 82) and more recently, 140 site assemblages (Reece 1991b and 1995, 183). The *per mill* values calculated using these data have become known as Reece's British Mean (RBM) and are illustrated by a histogram in Figure 8 and summarised in Table 7.

RBM has become accepted as representative of coin loss throughout the whole province, and is commonly used as the standard comparative dataset in 'Applied Numismatic' study (cf. Guest 2008f; Walton 2008). This is despite the fact that RBM may not be wholly representative of coin loss in Roman Britain, as Reece has himself acknowledged (Reece 1991b, 1).

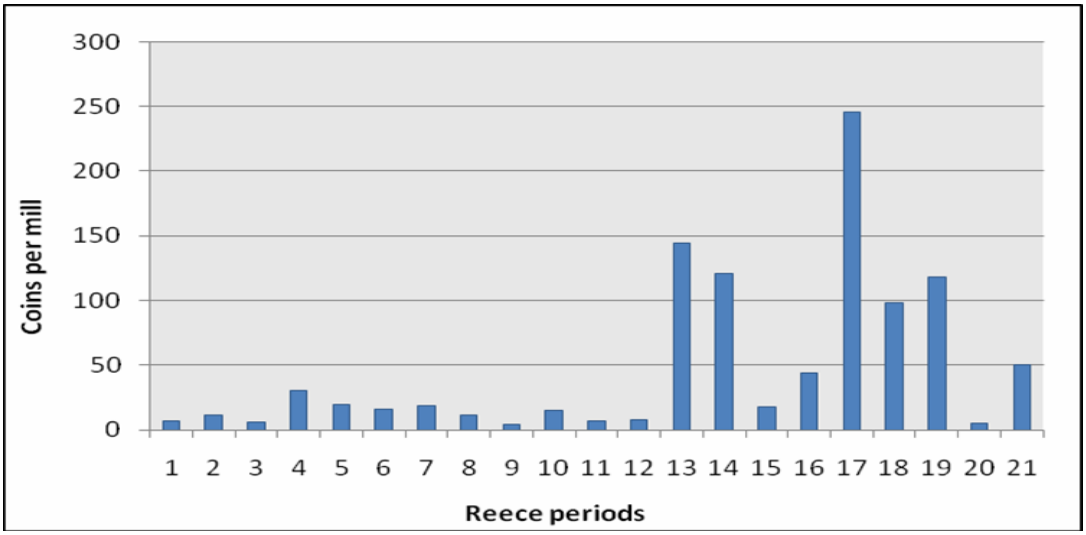


Figure 8: Reece's British Mean (RBM)

The geographical distribution of sites selected is not uniform, with clusters in southern and eastern Britain, and as Figure 9 illustrates, the majority of sites chosen for inclusion possess high status, military, urban or religious functions. Indeed, excluding villas, only a quarter of Reece's sites are classified as 'rural'. This contrasts with statistics which suggest that 80% of the Romano-British population may have lived in the countryside (Mattingly 2006, 453). Furthermore, sites with totals of more than 100 coins were favoured for inclusion, over smaller assemblages. This will have excluded assemblages from some site types and some regions, where coins may have been used differently and at different times. Reece did, however, remove the assemblage from Richborough from his calculations, as at 50,767 coins, it would have accounted for nearly a third of his dataset and hence skewed mean values substantially.

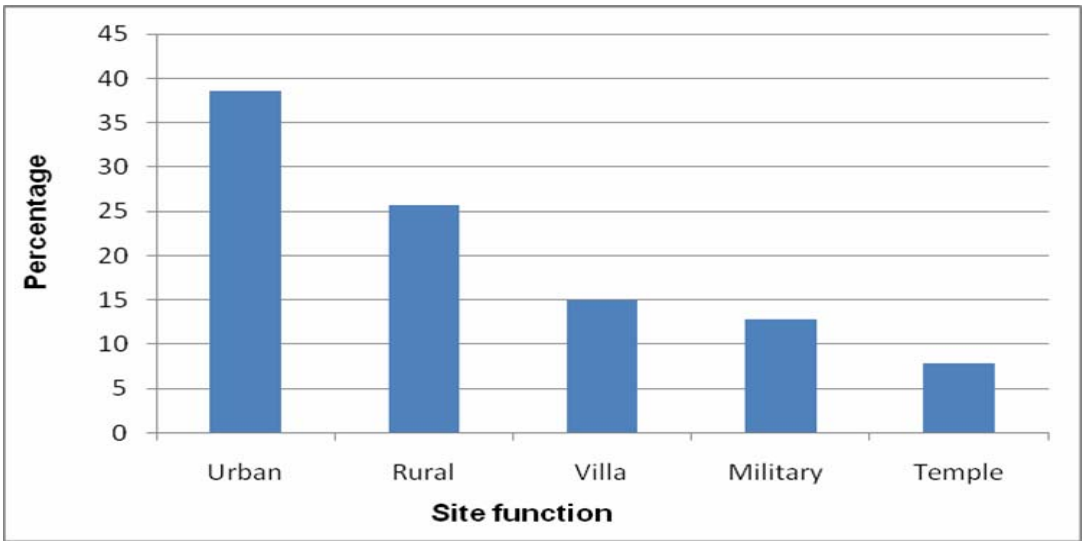


Figure 9: The function of Reece's 140 sites (Reece 1991)

4.2 Comparative Mean

The collection of a more comprehensive comparative dataset of 367 sites, allows the calculation of a new comparative mean (CM). CM includes Reece's 140 sites (Reece 1991b) in addition to a further 227 coin assemblages from excavation reports, published after 1990.[11] The *per mill* values for CM are presented in Figure 10 and summarised in Table 7. As these new assemblages are all much smaller in size, the data which makes up RBM still accounts for 75% of the total dataset, and therefore the *per mill* values of RBM and CM are similar. However, Richborough is included in CM and these data create some of the biggest contrasts in values with RBM, particularly for Period 21 (AD 388-402).[12] The southern geographical emphasis of RBM remains, with 65% of CM's assemblages recorded from south of the Fosse Way.

[11] The assemblage recorded as Venta interior (C228) has been excluded from calculations as it represents a duplication of Caistor by Norwich internal (C215).
[12] The dataset from Richborough includes a total of 22,822 Period 21 coins.

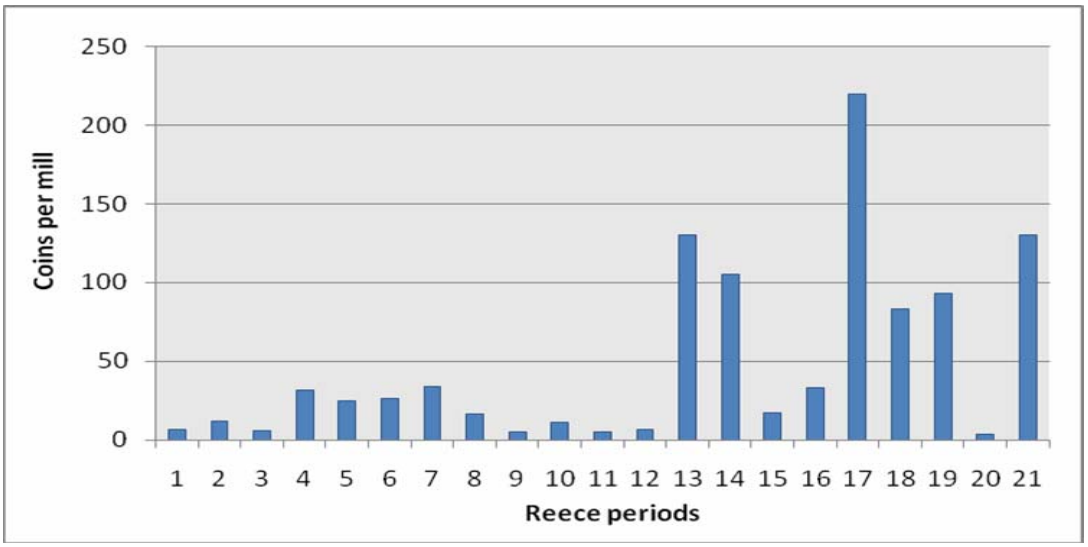


Figure 10: The Comparative Mean

However, the functional composition is somewhat different, as Figure 11 illustrates. The percentage of unclassified rural sites increases slightly to 29% and becomes the dominant site type. It is therefore possible that the CM is more representative of the full range of sites using coins throughout *Britannia*, than RBM.

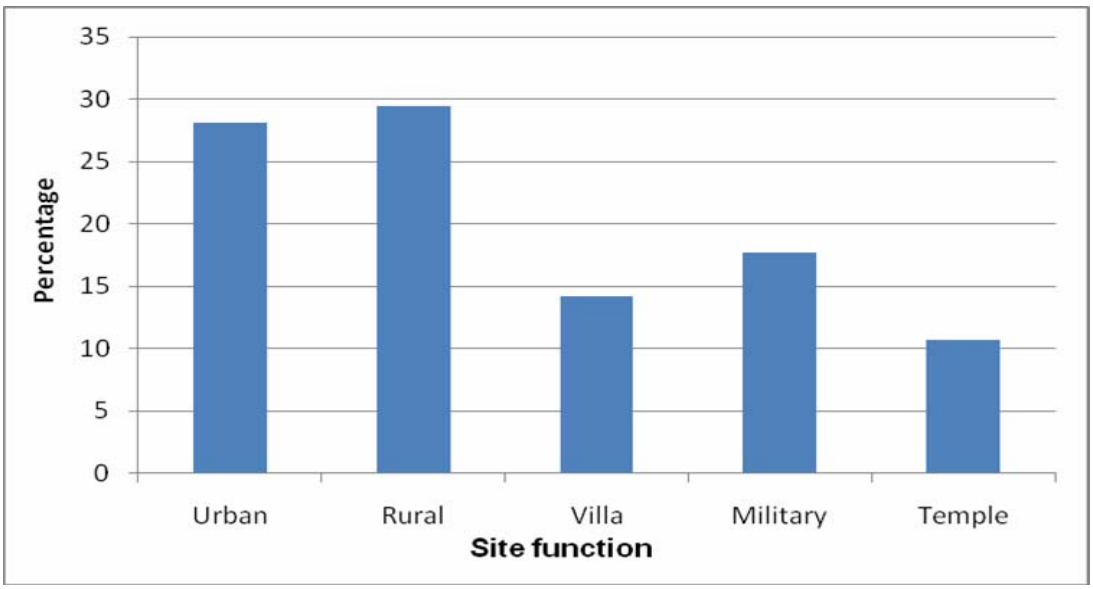


Figure 11: Percentage values of each site type included in the Comparative Mean

4.3 The PAS Mean

The PAS Mean comprises 38,167 coins from 447 parishes. Eleven parish assemblages, summarised in Table 5, were identified by the Cluster Analysis as hoards or potential hoards. As a result they have been excluded from calculations. The values for the PASM are presented in Figure 12 and summarised in Table 7. 'Stray' losses (here defined as single coin losses up to collections of fewer than twenty coins from any one parish) have also been excluded as the aim is to create a set of mean values for the average parish, thereby making it directly comparable with RM.

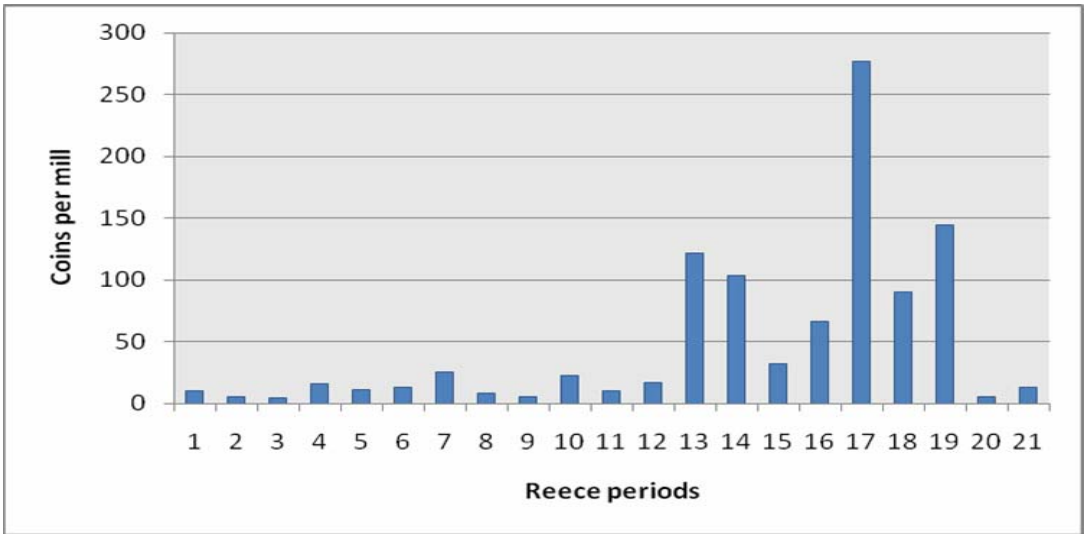


Figure 12: The PAS Mean

PASM is of limited use in isolation, although it does indicate general fluctuations in the proportions of coins lost throughout the Roman period. The average PAS parish has low coin loss in the first and second centuries, picking up slightly only in Periods 7 and 10 (AD 138-161 and AD 193-218 respectively). There is a sharp increase in the proportions of coins lost in Periods 13 and 14 (AD 260-296), and then again throughout the mid fourth century, with a significant peak in Period 17 (AD 330-348).

In recent years, new emphasis has been laid on the importance of the Romano-British rural population in the development of the province. Whilst the archaeologically visible and attractive towns, villas and forts have so often been the focus of attention, it has been estimated that their inhabitants accounted for less than 20% of the population of Roman Britain (Mattingly 2006, 453). The un-stratified nature of the PAS data means that it is difficult to assign site functions to parish assemblages. However, the rural origin[13] of the majority of PAS data (Lewis 2009, 279) coupled with the lower proportion of Period 13 and 14 coins compared to those in Periods 17 and 19 suggest that the PASM represents a rural pattern of coin loss (Reece 1995, 180).

4.4 Comparing the three means

The usefulness of mean values lies in their comparison with other data. A comparison of the three means, presented in Figure 13, is therefore illuminating. Firstly, it is evident that all three means possess a broadly similar pattern of coin loss, with low *per mill* values for the first and second centuries followed by a significant increase in the late third and fourth centuries. This pattern confirms the theory that there is a coin loss profile for Britain (Casey 1974, 37; Reece 1987a, 80; Reece 1995, 179) and that the vast majority of assemblages, whether recovered through excavation or metal detecting, exhibit this pattern. Comparison with means calculated for other provinces in the western Roman Empire, confirms that this profile is peculiar to Britain (Reece 1972, 273; Reece 1973, 230).

Despite the superficial similarity of the three means, they do possess some subtle, and yet important, points of divergence. In Period 1, which equates to the Republican and Augustan period, the PASM value is higher than that of RM and the CM. This is despite the fact that both RM and the CM include records of Iron Age coins, whereas these are omitted from the PASM. It is

[13] 91.73% of PAS finds in 2007 were recovered from cultivated land (Lewis 2009, 279).

not immediately evident why the PAS dataset incorporates higher proportions of Period 1 coinage, and therefore, this question will be addressed in more detail in Chapter 5.

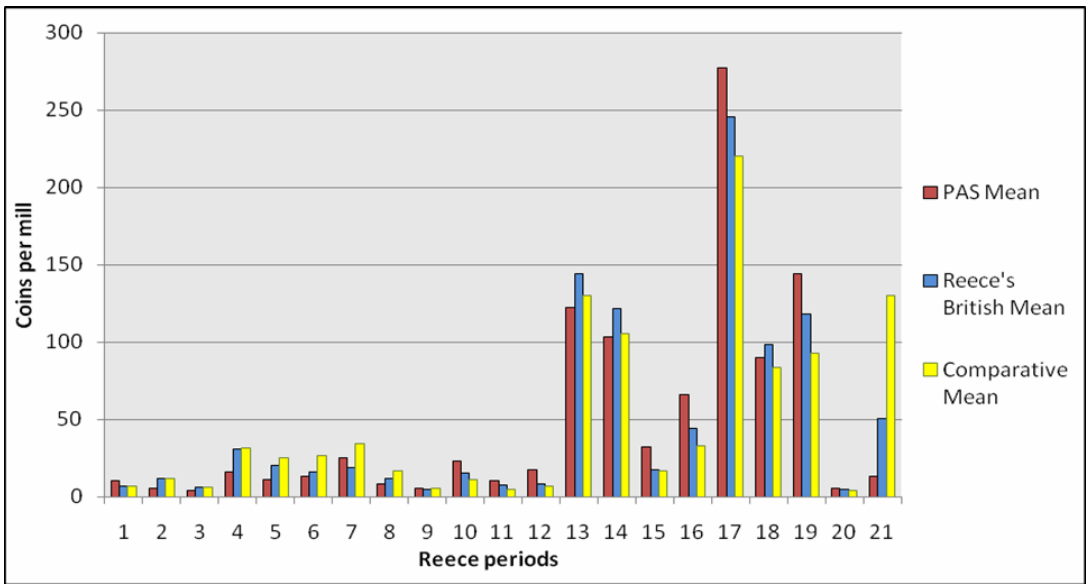


Figure 13: The three means for *Britannia* compared

In Periods 2 to 7 (AD 41-161), the PASM values are much lower than those of RM and CM. This difference is likely to be a reflection of the function of the sites from which assemblages used to calculate each mean have been retrieved. For example, first century coinage tends to be concentrated on sites with a military connection, or with early urban development, as Chapter 5 will discuss. As CM includes data from 65 assemblages recovered from forts and 74 from urban foundations, it is likely to include substantial quantities of early coinage. However, as such sites are not accessible to metal detector users, due to either Scheduled Monument legislation or modern urban development, the opportunity for collecting first and second century coinage is diminished, hence the low early coin values in the PASM.

The higher PASM values, in Periods 10 to 12 (AD 180-260), may be a reflection of the increased quantities of currency in circulation in the late

second and early third century AD. In particular, the large volume of Severan copies in the PAS dataset may be responsible for higher values in Period 10. What is more unclear is why there is proportionally more coin loss in the average PAS parish at this time than at the average high status, urban or military site, represented by RM and CM. This difference may indicate that the copying of Severan issues is a rural phenomenon. However, it is also possible that large assemblages recorded by the PAS from known military sites such as Winteringham, North Lincolnshire or Piercebridge, County Durham, which will have played a significant role in the Severan campaigns, may inflate the values.

The PASM values are lower in both Periods 13 and 14 (AD 260-296) than RM and CM. As noted elsewhere, a lower proportion of radiates to mid to late 4th century coin is generally a characteristic of rural sites and therefore these values reflect the rural nature of the PAS dataset (Reece 1987a, 93). However, the lower PASM values may also be the result of the way in which the records have been organised. Many radiates have been dated only loosely to AD 260-296 by Finds Liaison Officers, and therefore have not been assigned to either Reece period 13 or 14. If unassigned radiates were added proportionally to periods 13 and 14, the PASM values would increase, but probably not significantly.

PASM values for the Periods 15 to 17 (AD 296-348) and 19 (AD 364-378) surpass those recorded for RM and CM. Again, this is a reflection of the rural nature of the PAS dataset, and emphasises a shift in users and types of sites where coins were lost, between the early and late Roman period. In Period 18, RM possesses marginally higher values than PASM. This is difficult to account for, although the inclusion of large temple assemblages such as Nettleton, Lydney and Uley with numerous FEL TEMP REPARATIO copies may, in part, be responsible (Reece 1991b, 28).

In Period 21, the PASM possesses a much lower value, than those calculated for both RM and CM. Whilst the value for CM is substantially inflated by the inclusion of 22,822 coins from Richborough (Reece 1991b, 27), the fact that RM possesses a higher value is interesting. It is possible that the PASM value may be lower due to the difficulties of identifying the latest *nummus* issues, as they are often extremely worn and corroded and can easily be mistaken for Period 19 SECVRITAS REIPVBLICAE issues. However, the Cluster Analysis discussed in Chapter 8 shows a shrinkage in the distribution of coins lost in Period 21, away from rural areas and back to nodal points at cross-roads and urban centres. Therefore, the low Period 21 values in the PASM may reflect diminished coin circulation at rural sites.

4.5 Walton's British Mean

Walton's British Mean (WBM) has also been calculated using the combined totals of the PAS and comparative datasets. Using 262,272 coin records from 814 sites or parishes, these values should provide the most representative picture of average coin loss throughout the province of *Britannia*, regardless of site function or geography. The data are summarised in Table 7 and presented in Figure 14. What is most striking about WBM is the extremely high *per mill* value for Period 21. This high value is the result of the inclusion of the assemblage from Richborough in calculations, which accounts for 77% of all coins recorded for Period 21. Its inclusion distorts all other WBM *per mill* values. In order to avoid this distortion, coins of all periods from Richborough (equating to a total of 50,767 coins) have been removed from the dataset and WBM values have been re-calculated. These values are also summarised in Table 7 and presented in

Figure **15**.

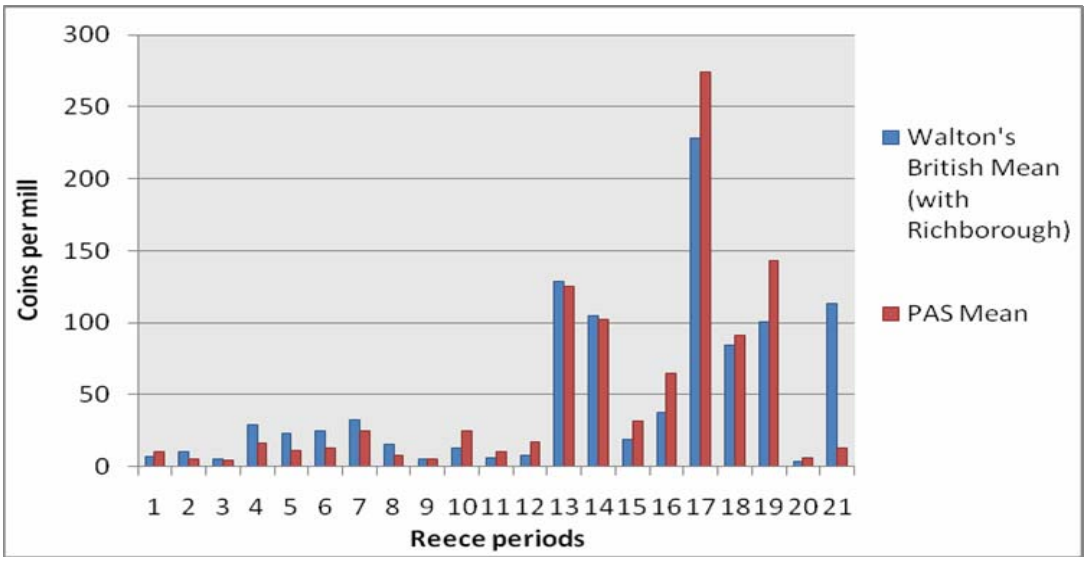


Figure 14: Walton's British Mean (including Richborough) compared with the PAS Mean

The comparison of PASM and WBM in Figure 14 and
Figure **15** reinforces many of the conclusions reached in relation to RM and CM. The average Romano-British site exhibits higher coin loss in the first to third centuries and lower coin loss in the fourth century than the average PAS parish assemblage. Of particular note is the high Period 21 value of WBM in relation to PASM, despite the removal of the assemblage from Richborough. This may suggest the decline of coin loss in rural areas, accompanied by a renewed focus on more nucleated 'urban' sites in the late fourth century. This decline is also demonstrated in Cluster Analysis plots which will be discussed in Chapter 8.

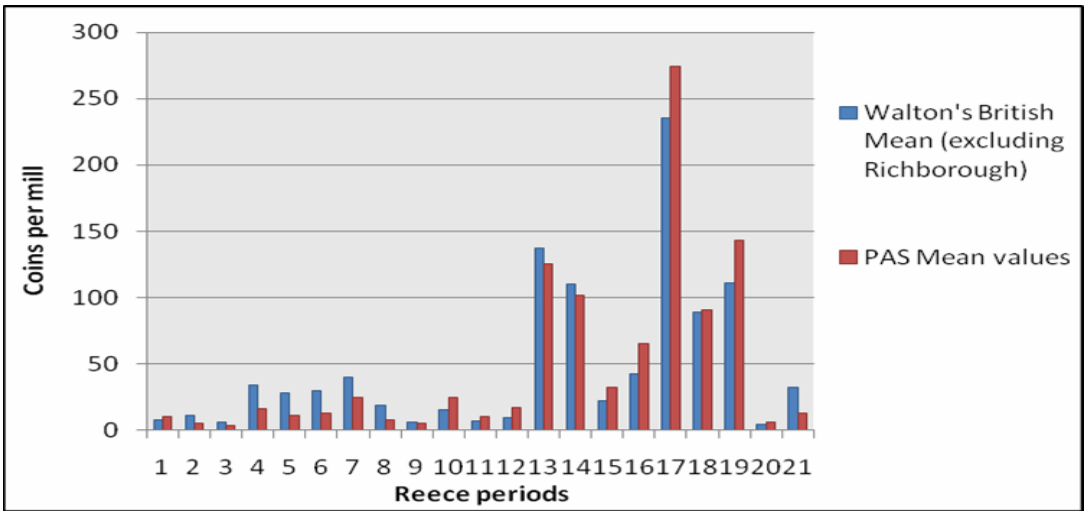


Figure 15: Walton's British Mean (excluding Richborough) compared with the PAS Mean

4.6 Regional variation in coin loss

Despite the advantages of creating a set of mean values for coin loss throughout the province of *Britannia*, this approach precludes investigation of regional variation. Indeed, the material culture of the province is no longer viewed as homogeneous even in southern, lowland Britain. County-specific studies have highlighted variation in the quantity and chronological distribution of coinage at a regional level (Davies and Gregory 1991; Moorhead 2001a, 92). Similarly, analysis of typologies of other artefact types, such as nail cleaners and brooches, emphasises the degree of regionality expressed through their distribution (Crummy and Eckhardt 2003; McIntosh 2010).

Therefore, mean values have been calculated for different areas of the province, using only the PAS data to ascertain the extent to which regional variation is displayed. *Per mill* values for parishes north and south of the Fosse Way are compared, as are values for the counties of Wiltshire, the Isle of Wight, Lincolnshire and Suffolk. Both approaches are hampered by methodological difficulties. Although the Fosse Way is a feature of the

Roman landscape and conveniently marks the division between highland and lowland, military and civilian, its selection is still artificial. The modern county is even more of an artificial and anachronistic geographical unit. However, as long as these shortcomings are acknowledged, both datasets can provide a springboard for exploring regional patterns.

4.7 North and South of the Fosse Way Means

There are 78 PAS parish assemblages with a combined total of 9,276 coins north west of the Fosse Way, and 369 parishes, with a combined total of 28,891 coins south east of the Fosse Way. The total number of parishes and coins in each area clearly demonstrates the difference in coin loss recorded for northern and southern Britain. The *per mill* values for the North of the Fosse Way Mean (NFWM) and the South of the Fosse Way Mean (SFWM) are compared in Figure 16 and summarised in Table 8. Although following the general British pattern discussed above, each mean possesses subtle differences in *per mill* values.

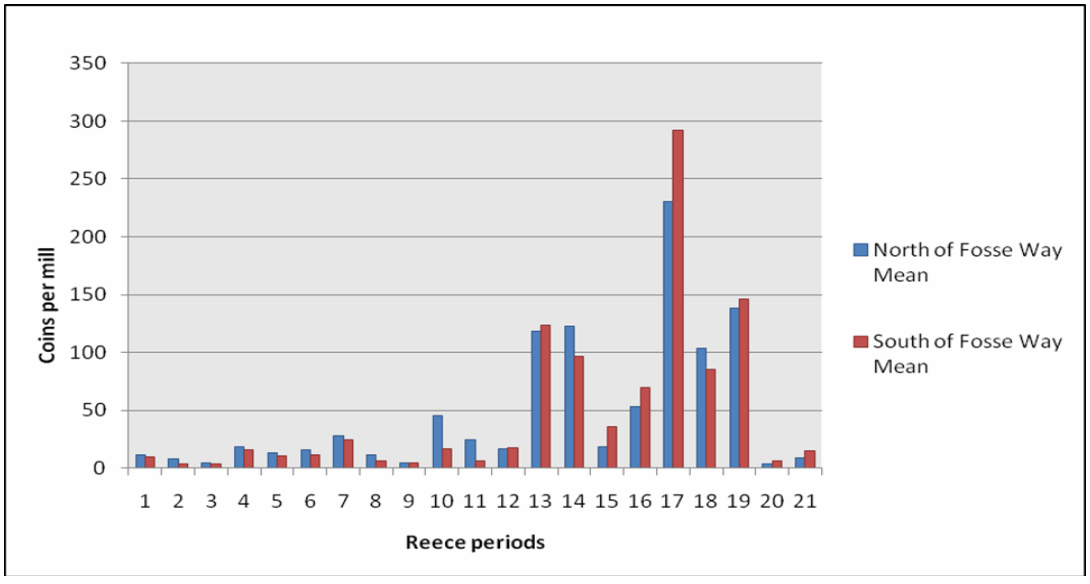


Figure 16: Mean values for coin loss north and south of the Fosse Way compared

NFWM possesses higher *per mill* values for the first to early third centuries (Periods 1 to 11) and consistently lower values for the later third and fourth centuries (Periods 12 to 21) than SFWM. As high proportions of early Roman coinage are usually assumed to reflect urban or military activity, these values are exactly what might be expected from a zone which was militarised and experienced heavy campaigning in the early and mid Roman period. Indeed, the PAS assemblages from Piercebridge, County Durham (DUR0007) and Winteringham, North Lincolnshire (NLin0031) account for approximately 25% of the data, included in NFWM, and originate from parishes with known military installations (Cool and Mason 2008; Whitwell 1995, 102). However, the majority of the data originate from rural sites, where there are no permanent military installations and therefore they must relate to transient military activity, associated with campaigning or the interaction of the army with native communities.

Of particular note amongst the values for NFWM, are those for Periods 10 and 11 (AD 193-238). Both *per mill* values are significantly higher than those exhibited by SFWM. The assemblage from Piercebridge, which possesses the third highest *per mill* values for Severan coin loss of any PAS parish, is likely to have inflated these values. However, it may be that a connection can be made between high levels of Period 10 and 11 coin loss in general and the Severan campaigns in northern Britain between AD 208 to 211. Indeed, in other parts of the Roman Empire, a correlation has been demonstrated between the presence of the army and large numbers of Severan copies (Gãzdac 2008, 277ff). From Period 12 onwards, the values for SFWM are almost always consistently higher than those of NFWM. This indicates that in southern Britain the peaks in coin loss lie in the late third and fourth centuries.

4.8 Comparing county means

In the previous section, differences between northern and southern Britain have been illustrated. However, a dichotomy between a civilian south and east with villas and a militarised north and west is likely to oversimplify the situation in the Roman period (Mattingly 2004, 14). For this reason, mean values have also been calculated for the counties of Wiltshire, the Isle of Wight, Lincolnshire and Suffolk using PAS parish assemblages of 20 or more coins. They are summarised in Table 9. It is immediately clear that both the coin totals and mean values for each county are very different. This suggests that geography plays a significant role in determining the quantity and chronology of coin loss. Why this might be so is more difficult to explain, and so each county mean has been analysed in turn.

The Wiltshire Mean (WM) is presented in Figure 17. It has been calculated using 1,153 coins from 14 parishes. It possesses values lower than the PASM throughout the first to early fourth centuries, before exhibiting much higher values for Periods 19 to 21. This pattern has been observed in a previous study of Roman coin loss in Wiltshire (Moorhead 2001a, 89). This not only confirms the validity of the PAS dataset but also reinforces many of the theories advanced there to explain the fluctuations in coin loss. The absence of either major towns or a prolonged military presence was suggested as the reason for the low proportion of early coins (Moorhead 2001, 88) whilst the exceptional peak in Period 19 and higher values for Period 20 and 21 were argued to be a reflection of the late Roman agricultural wealth of the area, with Cirencester (in the neighbouring county of Gloucestershire) – the probable capital of *Britannia Prima*, at its heart (Moorhead 2001a, 94ff).

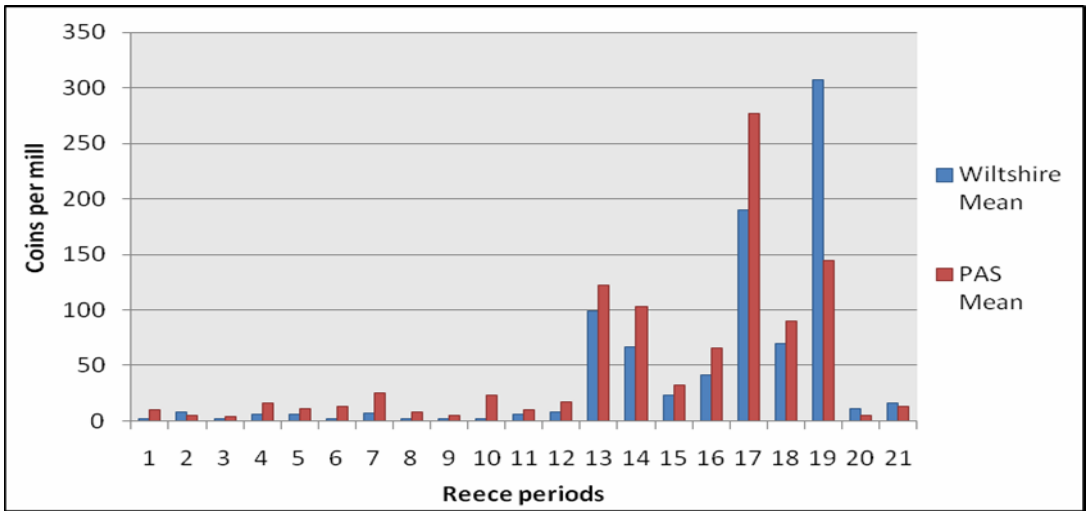


Figure 17: The Wiltshire Mean

The Isle of Wight presents the opportunity to investigate an area which, unlike other counties, will have existed as a geographical entity in the Roman period. The mean (IOWM) has been calculated using a total of 649 coins from 10 parishes and is presented in Figure 18. It exhibits a very unusual pattern of coin loss with values that are at odds with the PASM. Coin loss is very high, throughout the early to mid Roman period, and then very low, in the third and fourth centuries. Elsewhere, this pattern has been interpreted as a reflection of either urban or military phenomena. As the Isle of Wight possesses no urban foundations or known forts, this pattern is extremely unusual and deserves further exploration. This will be provided by analysis outlined in Chapter 9.

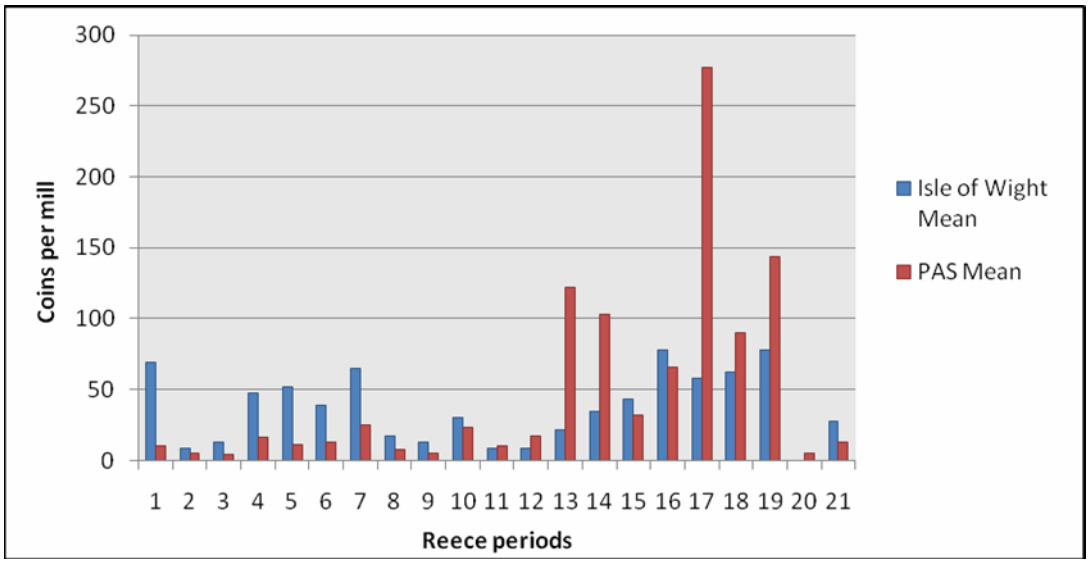


Figure 18: The Isle of Wight Mean

The Lincolnshire Mean (LM) has been calculated using 2,014 coins from 31 parishes and is presented in Figure 19. It has low proportions of coin loss in the first to third centuries, followed by higher proportions in the later third and fourth centuries. Indeed, along with the Suffolk Mean, discussed below, it exhibits a pattern very close to the PASM. As has been demonstrated in this chapter, PASM exhibits a profile for the 'average' Romano-British rural site. Therefore, by implication, the assemblages included in the LM are likely to be mainly rural in nature, particularly as there is a peak in values in the mid to late fourth century AD. Indeed, although Lincolnshire possesses several small towns, in addition to the *colonia* of Lincoln, recent landscape studies employing either PAS data or aerial photography have emphasised the sheer density of small rural settlements in the county (Daubney 2009a; Taylor 2007, 75ff).

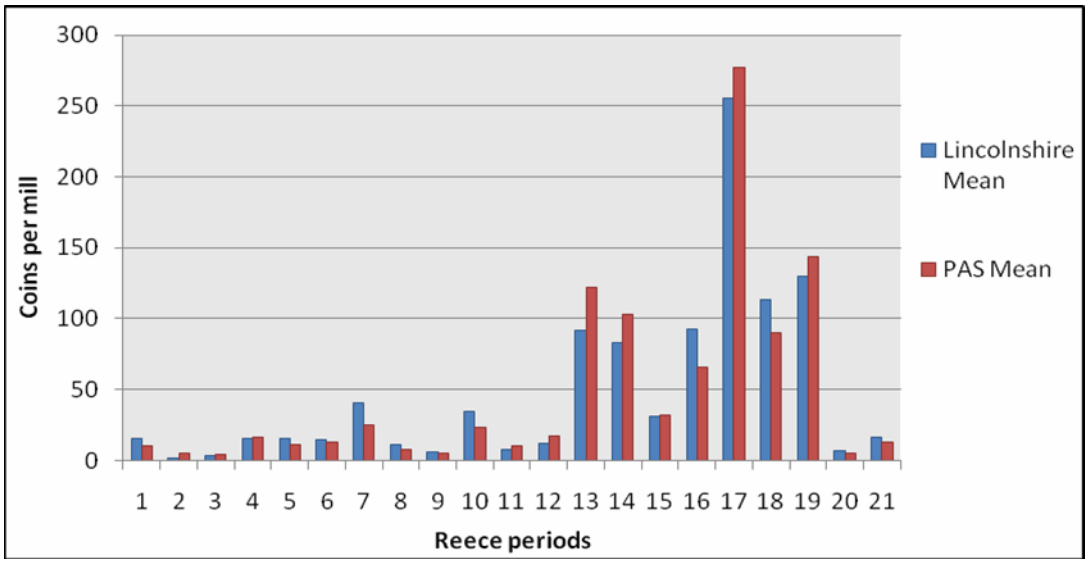


Figure 19: The Lincolnshire Mean

The Suffolk Mean (SM) has been calculated using 5,986 coins from 67 parishes and is presented in Figure 20. It also exhibits *per mill* values close to those of the PASM. Throughout the first to third centuries, the two means are almost identical. In the early to mid fourth century, SM possesses higher values, particularly in Period 17, before declining to values below those of the PASM. This similarity with PASM, again marks out SM as a predominantly rural mean. It is perhaps interesting that first century military activity, at forts in Suffolk, is not reflected in the early mean values. This may be a reflection of the fact that military activity is more identifiable through stray losses than parish profiles. This theory will be explored further in Chapter 5.

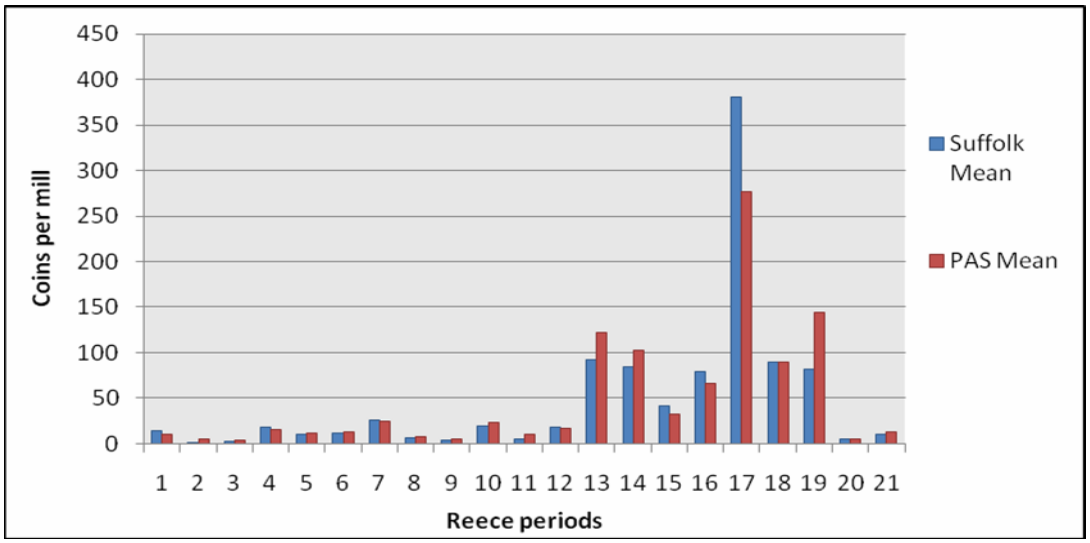


Figure 20: The Suffolk Mean

4.9 Calculating mean values by denomination

The calculation of mean values using total numbers of coins by Reece period has become accepted as an effective way of creating a background, against which coin loss can be explored at a national and regional level. However, the formal calculation of similar mean values incorporating denominational data has not been attempted widely, despite the fact that such values could potentially provide a far more nuanced picture of coin supply and loss. This is probably partially a result of the enormous effort involved in collecting a dataset of coins large enough to be deemed representative of the province and also partially a result of a reluctance to draw conclusions from data with obvious and unquantifiable biases. These have been discussed in detail in Chapter 3, where the methodological approach of this thesis is outlined. However, it is worth reiterating here two issues, which will particularly affect the interpretation of the evidence presented. Firstly, the period of loss will not necessarily be the same as the period of issue, as all denominations could circulate for considerable periods of time. Secondly, the relationship between coins as found in the archaeological record and coins originally in circulation, is difficult to ascertain. Site finds assemblages will always contain a higher proportion of

small coins (which will be lost more easily) and low value coins (which will be retrieved less readily), than actually existed in the population of circulating coinage (Walker 1988, 284).

4.10 Previous study of denominational composition

This section will assess the contribution of previous studies of denominations in Britain (Hobley 1998; Reece 1973; Walker 1988). It will then present a variety of denominational means for the Augustan coinage system (pre AD 43 – AD 260) in Britain, calculated using all PAS data including stray coin finds. Mean values have not been attempted for the late third and fourth century, when the radiate and *nummus* dominate coins in circulation. These include a national denominational mean, means for the areas to the north and south of the Fosse Way respectively and for two counties. The way in which mean values can be used to analyse the function of individual sites, will also be explored.

Few studies have addressed the issue of the supply and circulation of different denominations to Britain in the first to third centuries AD. Indeed, there are only three accessible works. The earliest study comprised an investigation of the denominational composition of coin assemblages from 14 sites from Britain, and compared them with Continental sites (Reece 1973). More recently, the supply and circulation of bronze coinage in the western provinces of the Roman Empire between AD 81 and 192 has also been researched in depth (Hobley 1998). Using a dataset of 2,555 coins from Britain, the study demonstrated fluctuations in the volume of issues in different years whilst also highlighting several intra-provincial patterns, including the dominance of the *denarius* in military zones and the increasing dominance of the *sestertius* in the second century AD. However, the narrow chronological and denominational focus of the study, hinders comparison of its results with the PAS data.

Closest to a full analysis of the coin denominations of the Augustan system circulating in Roman Britain is Walker's study of the assemblage of 12,595 coins from the Sacred Spring at Bath (Walker 1988). He argued that due to its size and emphasis on early coinage, the assemblage was likely to be representative of coin supply and patterns of circulation in Britain as a whole during the first and second centuries AD (Walker 1988, 281). Walker did not present his data graphically, nor use the Reece period framework, preferring instead to discuss the assemblage generally, in terms of three periods of supply – the 'sporadic', the 'regular' and the 'minimal' and to focus on *per annum* coin loss and particular years of issue, within the reigns of individual emperors. However, in order to discuss his conclusions effectively and to facilitate comparison with the PAS Mean values presented later in this chapter, the Sacred Spring data for each denomination has been converted to *per mill* values as illustrated by Figure 21.

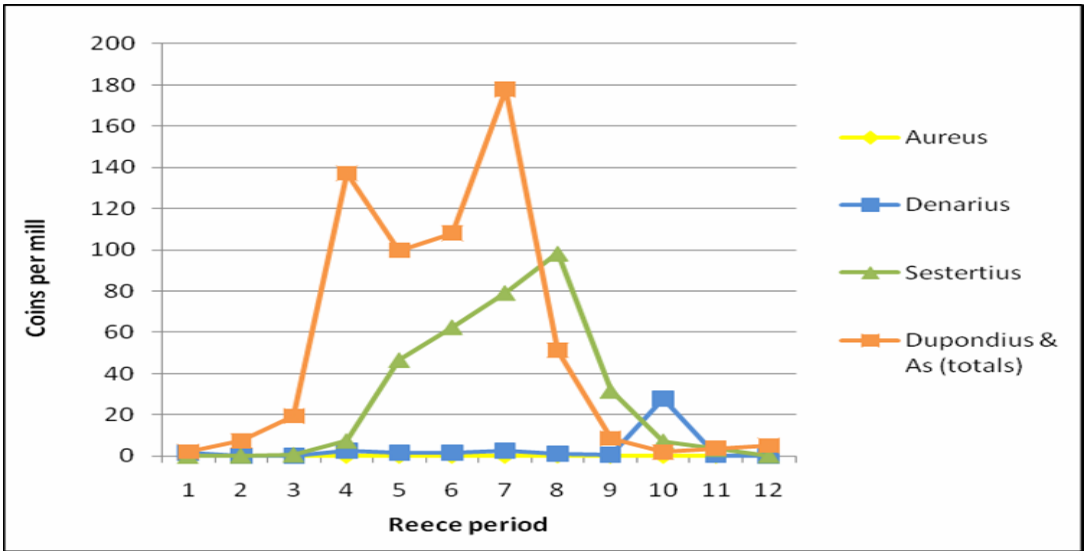


Figure 21: Denominational Mean for the Sacred Spring, Bath (after Walker 1988)

The period of 'sporadic supply' encompasses Reece periods 1 to 4 (Republican to AD 96). Walker notes that, during this period, bronze denominations were not supplied to Britain on a regular basis. The first

major injection of coinage, comprised a small quantity of genuine issues, supplemented by large numbers of 'irregular copies', arrived at the time of the Claudian invasion (Walker 1988, 281 and 283). Four further periods of massive injections of coins took place in AD 64-67, 71-73, 77-78 and 86-87. He notes that there is no correlation between the input of base-metal currency and the level of military activity (Walker 1988, 287) and suggests that as supply was so sporadic, the injections cannot normally have been used to pay the army (Walker 1988, 287). Instead, he suggests that as the injections were dominated by *asses* ('smaller number of *dupondii* and one *sestertius* for every ten *asses* or even more') which 'involved the transport of double the weight than if the coin was sent out as *orichalchum*' (Walker 1988, 288) that it was realised that small denominations were needed and may have been intended to encourage and stimulate a monetary economy. This idea has been challenged by Creighton, whose work on the speed of coin circulation indicates that newly issued bronze coinage was supplied primarily to the army on the northern frontier (Creighton 1992).

The period of 'regular supply' equates to Reece periods 5 to 9 (AD 96-192). Walker notes that during this period, bronze coinage seems to have entered Britain regularly although the proportion of each denomination does not remain static. For example, Periods 5 and 6 are characterised by the rise in the proportions of *sestertii,* accompanied by a concomitant decline in that of *asses* (Walker 1988, 288). The immense production of *dupondii* and *asses* for the years AD 153 to 155 creates a spike in values for Period 7 (Walker 1988, 293). In Period 8, the *sestertius* again becomes dominant as the proportions of *dupondii* and *asses* fall dramatically. Walker argues that the large input of *asses* in the previous period was considered sufficient for the province's needs and therefore the mint concentrated on the production of the denomination which was the cheapest, both to produce and transport (Walker 1988, 299). Period 9 witnesses the first signs of a decline in the quantity of the currency entering the province. There are a few more *asses*

than before but a sharp reduction in the *per annum* input of both *sestertii* and *dupondii* (Walker 1988, 299).

The period of 'minimal supply' encompasses Reece periods 10 to 12 (AD 193-260). It is marked by a decline in the supply of bronze coinage to the Province, accompanied by a massive rise in the production of increasingly debased *denarii*, and then radiates (Walker 1988, 300). Whilst a low level supply of bronze coinage did continue, particularly in Period 11, the quantities were so small 'that they could not have made up for the coins being lost from circulation by general wear and tear, loss and hoarding. The volume of bronze coinage in the province must therefore decline in real terms in the sixty-odd years before the monetary collapse of the 260s' (Walker 1988, 300). Walker notes that during this period of 'minimal supply', lack of bronze coinage did not result in local copying on any large scale. He argues that this is an indication of the fact that bronze coinage was of little importance throughout the province as a whole and that there was only a very low level of monetary activity (Walker 1988, 301).

Although Walker's analysis was ground-breaking and provided many interesting theories regarding supply, circulation and volume of coinage, his approach has been criticised (eg. Hobley 1998, 131). One site assemblage is unlikely to be representative of coin supply for a whole province, even an assemblage as large as Bath. Whilst patterns reflecting the provincial background are likely to be present, it may be difficult to isolate them from the 'noise' created by selection processes related to the assemblage's function as a votive deposit. Indeed, the paucity of precious metal coinage from the Sacred Spring, Bath demonstrates that selection processes, favouring low value denominations over high, were at work at the site. In order to present a set of denominational mean values representative of the province as a whole, coin data from a wide geographical area and range of sites must be used.

4.11 The PAS Denominational Mean

The PAS material provides this opportunity and therefore a set of PAS denominational mean values (PASDM) have been calculated, employing the 7,583 coins recorded under the major denominations of the Augustan system (a*ureus*; *denarius*; *sestertius*; *dupondius* and *as*). All coins recorded by the PAS are used, rather than just those from parishes with more than 20 coins. This is likely to provide the fullest picture of coin supply, especially as many sites in northern Britain produce only small numbers of coins. The calculations exclude the smaller fractional denominations such as the *semis* and *quadrans* and any Roman provincial coinage of the period.

As not all PAS records downloaded from the database included denominational details, weights of individual coins were used to assign denomination. All coins weighing 15 grams, or more, were assumed to be *sestertii*. As it is impossible to distinguish between *dupondii* and *asses* by weight alone, coins weighing less than 15 grams were described as '*dupondii* or *asses*'. 5% of records lacked even weight information and have been recorded as 'bronze coins with no denominational information'.

The method used by Reece to calculate simple mean values has been adapted for use with denominations. The total number of coins recorded for each denomination in each period is divided by the total number of all coins of all periods and multiplied by 1000. This provides *per mill* values for each denomination. Mean values are presented in Figure 22a and b and summarised in Table 10.

It is important to remember that, as PAS data has a rural bias, the denominational mean values will be particularly indicative of rural patterns of coin loss, rather than being representative of all sites. For example, the *aureus*, which tends to be found at military and urban sites, is likely to be under-represented. Furthermore, the fact that 5% of the dataset comprises

bronze coins too worn to be identified as *sestertii*, *dupondii* or *asses* means that all observations concerning the volume of bronze coinage and the relationship of the denominations with each other must remain provisional. However, the results presented here, represent the first attempt to study fluctuations in the loss of the four major denominations of the Augustan coinage system, to the province, using a national rather than site-specific dataset.

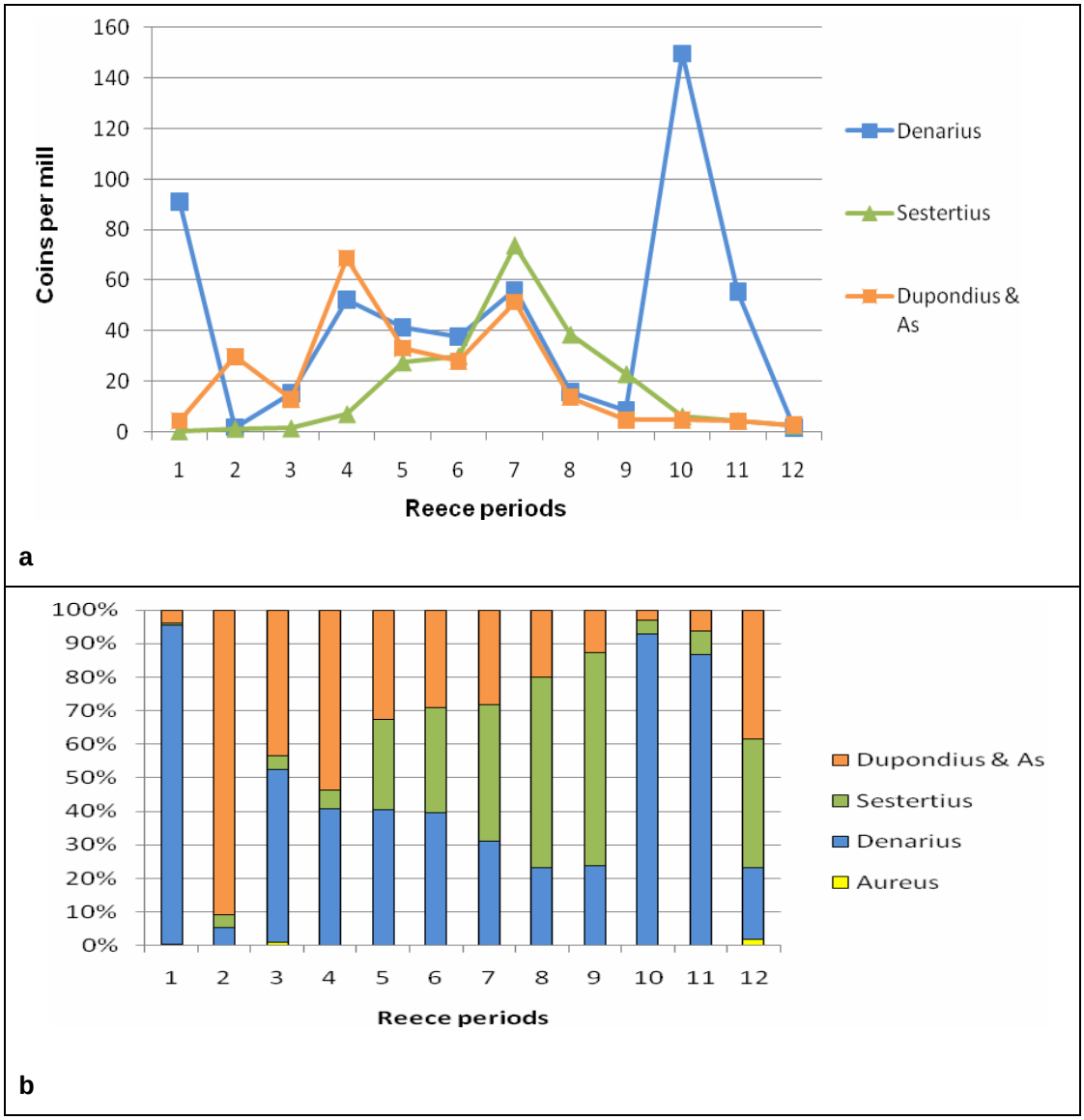


Figure 22: (a) Denominational Mean using PAS data and (b) the percentage of each denomination present in the PAS dataset

Using the assemblage from the Sacred Spring at Bath as a primary source of comparison and Walker's 'periods of supply' as a framework for discussion, several observations regarding the volume of denominations, by Reece period and their relationship with each other, are possible.

At a general level, a comparison of the two assemblages highlights the extent to which the deliberate selection of coinage for deposition has affected the denominational composition of the assemblage retrieved from the Sacred Spring. Although Walker acknowledged that low value coinage was offered in preference to *denarii* or *aureii*, he could not accurately estimate the extent of this selection (Walker 1988, 284). Comparison with the PASDM, however, allows such an estimation to be made. It is clear that low value denominations are favoured. The Bath *per mill* values for *dupondii* and *asses* are more than twice those calculated for PASDM whilst *per mill* values for *denarii* remain significantly lower in all Reece periods. However, despite these differences, there are also points of similarity between the Sacred Spring *per mill* values and the PASDM. These include the peaks in values of *dupondii* and *asses* in Periods 4 and 7, the rise of the *sestertius* from Period 4 and the peak in *denarii* in Period 10. These similarities reinforce the validity of the PASDM. They also confirm that the pattern of coin loss at a site is not entirely determined by the nature of activity there, but is also broadly reflective of trends in the supply and loss of different denominations at different periods.

During the 'period of sporadic supply' (Reece Periods 1 to 4) both *denarii* and low denomination bronze coinage play a significant role in the PASDM. Of Period 1 issues, *denarii* account for 95% of coin loss with bronze denominations restricted to a small number of issues of the emperors from Augustus to Tiberius. With Period 2 coinage, there is a sharp decrease in the number of *denarii* lost, accompanied by an increase in the number of *dupondii* and *asses*. Claudian *as* copies (and possibly some copies

produced up until AD 64) account for this peak, rather than official issues (see Chapter 6). Period 3 is marked solely by an increase in *denarii.* Period 4 however, marks the first peak in the *per mill* values of all denominations, particularly *dupondii* and *asses* which outstrip *denarii*. This peak in coinage corresponds with the period of Flavian military advance and urban growth and it is therefore possible that it represents the response of the Roman state to a demand for currency in both military and civilian communities. Despite this correlation and the observation that the army may have been paid in bronze coinage during this period (Robertson 1968) Walker argues against an explicit link between the input of base metal currency and the level of military activity (Walker 1988, 287).

The 'period of regular supply' encompasses Reece Periods 5 to 9. There is a decline in the *per mill* values exhibited by all denominations in Period 5 and 6, except the *sestertius*, followed by a peak in Period 7 issues. The way in which the values of *denarii* and *dupondii* and *asses* follow each other throughout the 'period of regular supply' is interesting, and may indicate a coherent policy, linking the supply of these different denominations. Incidentally, the close association of these denominations is also suggested by the Vindolanda tablets where the unit of accounting is the *denarius* supplemented by the *as* (Bowman 1994). Of particular note, however, is the increasing dominance of the *sestertius* amongst Periods 4 to 7 issues, reaching a point in Period 7, where it becomes the most numerous denomination represented. This pattern has been observed, not only at Bath (Walker 1988, 288) but also throughout the Western Provinces (Harl 1996, 90; Hobley 1998, 128; Reece 1973, 52). It is generally interpreted as a reflection of the reaction of the mint to inflationary pressures (Hobley 1998, 128).

Despite being within Walker's 'period of regular supply', Period 8 marks the beginning of a decline in *per mill* values, for all denominations, which

continues into Period 9. This pattern of decline has been recognised for bronze denominations elsewhere in the Western Provinces, where again inflation has been advanced as the explanation for diminishing supply (Harl 1996, 95; Hobley 1998, 128). However, this theory does not account for the concomitant decline in *denarii*. It is equally possible that the volume of coinage injected into the province in Period 7 was sufficient for the monetary needs of Britain, well into the third century AD.

During the 'period of minimal supply' which equates to Period 10 to 12, the sharp decline in the *per mill* values of bronze denominations levels out. Until AD 260, the *per mill* values for *sestertii*, *dupondii* and *asses* remain at consistently low levels. As mentioned above, both inflation and the continued circulation of earlier coinage due to a lack of new supplies may in part be responsible for these low values. Indeed, hoard evidence demonstrates that a sizeable proportion of second century *sestertii* stayed in circulation into the late third century AD in Britain, Germany and Gaul (Guest 1994; Robertson 2000, 107, 109 and 113) whilst in Italy, late *sestertius* hoards regularly include issues up to the cessation of *sestertius* production in the AD 260s (Guest 1994). However, it is also possible that Period 10 to 12 bronze denominations are under-represented in the archaeological record for reasons other than just minimal supply. Metallurgical analyses have proven that huge numbers of barbarous radiates, of the period AD 275-285, were struck using recycled bronze denominations of earlier periods (Ponting 1998, 276ff) whilst at Colkirk in Norfolk, halved *sestertii* have been found in association with radiate copies and their blanks suggesting their use in the production of barbarous radiates (Abdy 2003a, 144). It is likely that bronze denominations struck in Periods 10 to 12 would have been most readily available, although second century bronze is also likely to have been used.

In contrast to the dearth in bronze coinage, there is a massive peak in the *per mill* values for the *denarius* in Period 10, which is echoed in a smaller rise in values in the Sacred Spring assemblage. Again, inflation could be argued to be responsible for this peak, resulting in the *denarius* being the only denomination useful in everyday transactions (Harl 1996, 127). However, if this were the sole explanation, one might expect a steady increase in the *per mill* values for the *denarius* from the late second century onwards rather than a sudden spike in Period 10. It is therefore possible that a number of other factors have affected the values. Firstly, the peak may be the result of intensive military campaigning in Britain, during the Severan period, by an army demanding payment in silver. Indeed Cassius Dio specifically notes that Septimius Severus 'took a great deal of money on the expedition' (Cassius Dio 76, 11, 1). Further analysis of the geographical distribution of Period 10 *denarii* in Britain may shed light on the extent to which they are a military phenomenon, whilst comparison with other provinces would also indicate whether the Severan peak is an exclusively British phenomenon. Secondly, the large number of plated Severan *denarius* copies recorded by the PAS, may have inflated the *per mill* values.

4.12 Regional variation in the distribution of denominations

In the previous section, exploring the PASM, it was demonstrated that the chronology and volume of coin loss varies considerably by geographical region. This has already been acknowledged by a number of scholars (i.e. Davies and Gregory 1991; Moorhead 2001a and b). However, regional variation in the distribution of individual denominations has not been explored. This can be assessed visually, at a national level, through analysis of distribution plots of the main denominations, by issue period. For the sake of brevity, Periods 4 and 7, representing the two major peaks in the volume of coins recorded in the PASDM, are presented here. Figure 23 illustrates the distribution of denominations issued in Period 4 and Figure 24, those for Period 7.

Period 4 issues of *denarii* appear to represent the most numerous of the denominations in northern Britain, with concentrations in the Midlands (particularly in the counties of Worcestershire, Warwickshire, Shropshire, Staffordshire and Leicestershire) as well as to the east of Ermine Street in Lincolnshire. *Sestertii* are scarce but their distribution is more or less restricted to southern Britain. *Dupondii* and *asses* possess a similar distribution to *sestertii* but are far more numerous, particularly in East Anglia and Hampshire. A similar pattern emerges when the distribution of Period 7 issues is analysed. *Denarii* again appear to be the dominant denomination in northern Britain. *Sestertii* are far more numerous and possess a much wider distribution than their Period 4 counterparts. There are interesting concentrations in the vicinity of Chester and Wroxeter, whilst in East Anglia, there are two clusters separated by a band of territory, almost devoid of *sestertii. Dupondii* and *asses* also exhibit a wide distribution, although they continue to concentrate in East Anglia. In northern Britain, they are at their most numerous in the vicinity of Dere Street, indicating an obvious correlation between the spread of the low value denominations and communication networks.

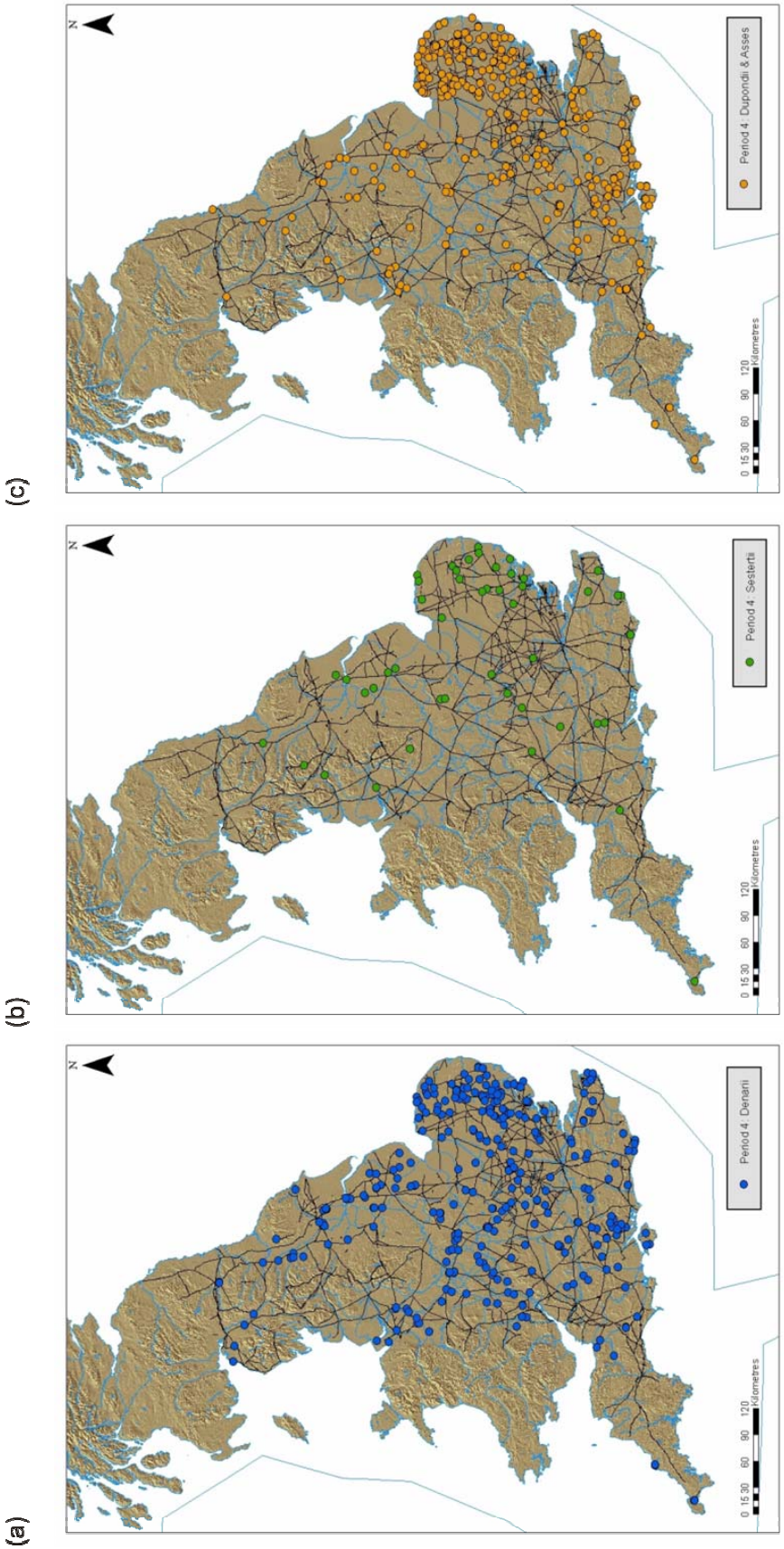


Figure 23: The distribution of (a) *denarii* ; (b) *sestertii*; and (c) *dupondii* and asses issued in Period 4 (AD 69-96)

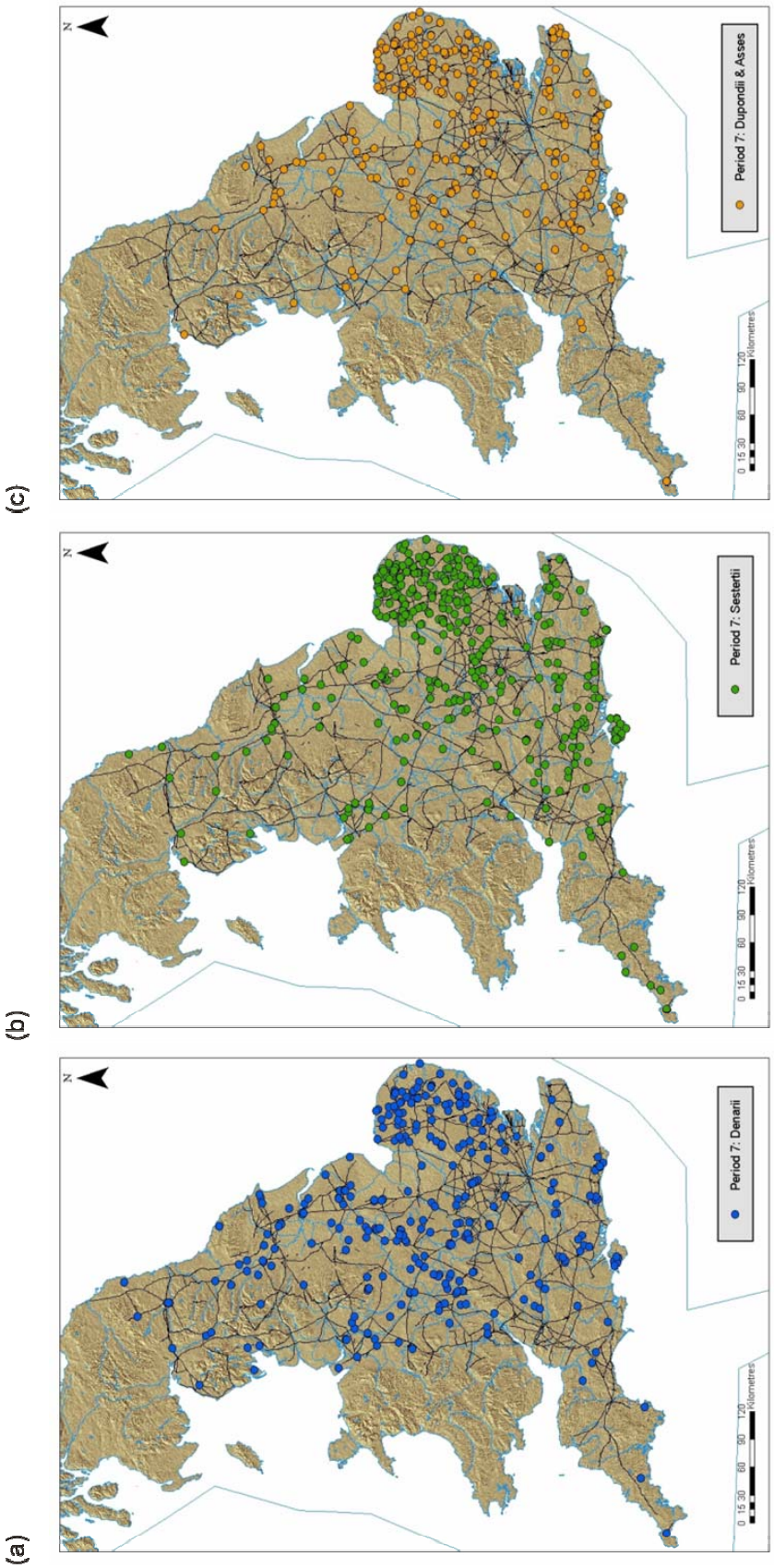


Figure 24: The distribution of (a) *denarii* ; (b) *sestertii*; and (c) *dupondii* and asses issued in Period 7 (AD138-161)

4.13 Comparing coin loss north and south of the Fosse Way

A visual assessment of the distribution and density of denominations in the Flavian and Antonine periods, can be supplemented by a more measured analysis of the proportions of each denomination found north and south of the Fosse Way. Two means have been calculated, using totals of coins recorded to the north and south of the Fosse Way. These are presented in Figure 25 and Figure 26 respectively. The northern dataset comprises a total of 2,564 coins whilst the southern dataset comprises 5,019 coins.

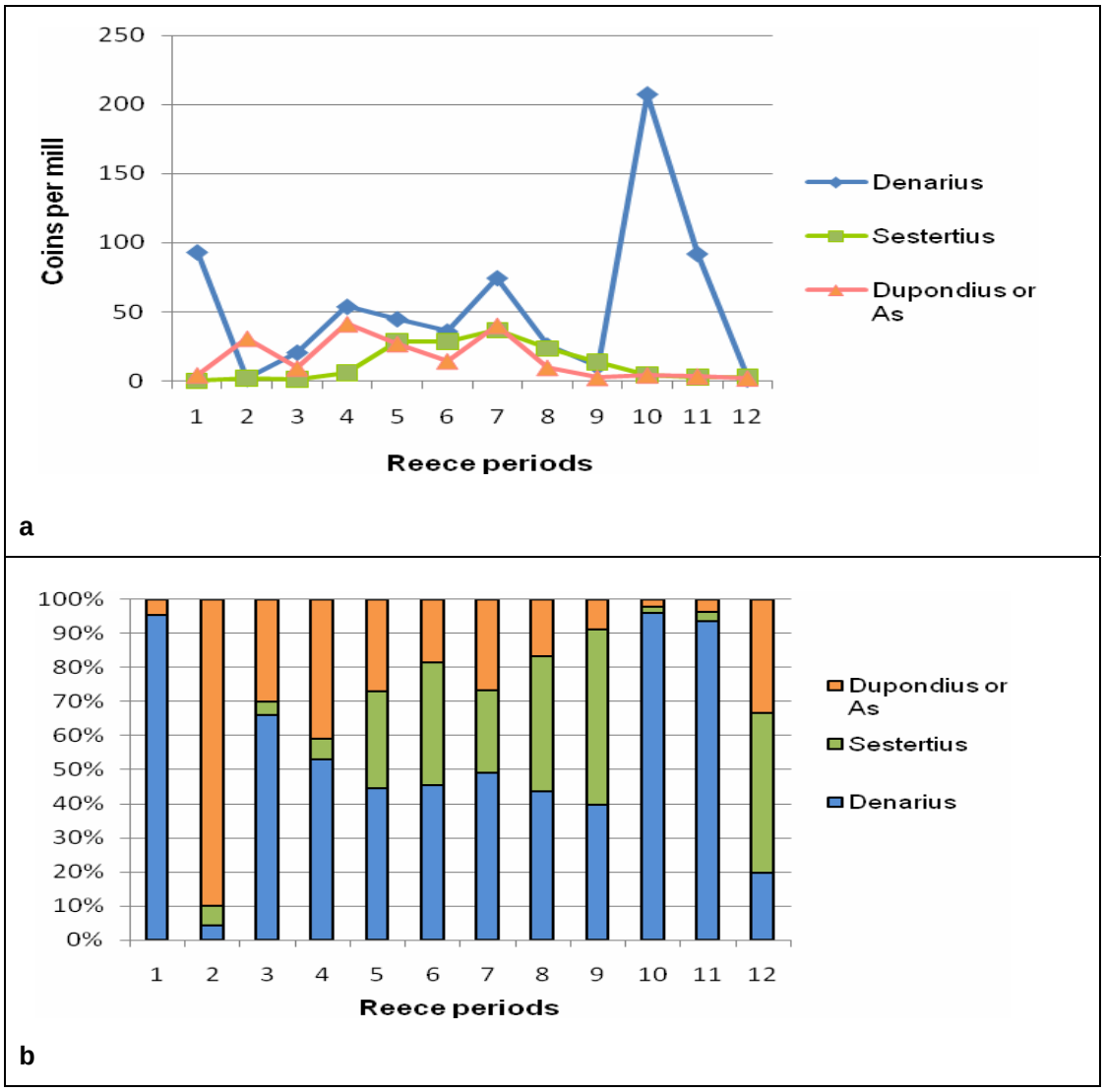


Figure 25: (a) PAS Denominational Mean for the area north of the Fosse Way and (b) the percentage of each denomination by Reece period north of the Fosse Way

The general patterns observed in the PASDM and the Sacred Spring denominational profile (i.e. the peaks in Periods 4 and 7; the increase in *sestertii* from Period 4; the decline in all denominations from Period 8; and the spike in Period 10 *denarii*) are visible in both the northern and southern means, confirming that they fall within the general pattern of coin loss for the province. However, there are significant differences between the two. Most striking is the fact that whilst the *per mill* values for *denarii* may be comparable in each mean, their relationship with the other denominations is not. As Figure 25 a and b demonstrate, the *denarius* is the dominant denomination in the northern mean, in almost every period. The exceptions are Period 2 (AD 41-54) when few *denarii* were issued and Period 9 (AD 180-193) where *sestertii* are extremely numerous. The values for *dupondii* and *asses* appear to be linked to those of the *denarius* in that they peak in the same Reece periods. The values for the *sestertius* remain low throughout, although they do increase from Period 4 (AD 69-96) and peak in Period 7 (AD 138-161). In Periods 8 and 9 (AD 161-193), *sestertii* account for a substantial proportion of the overall assemblage.

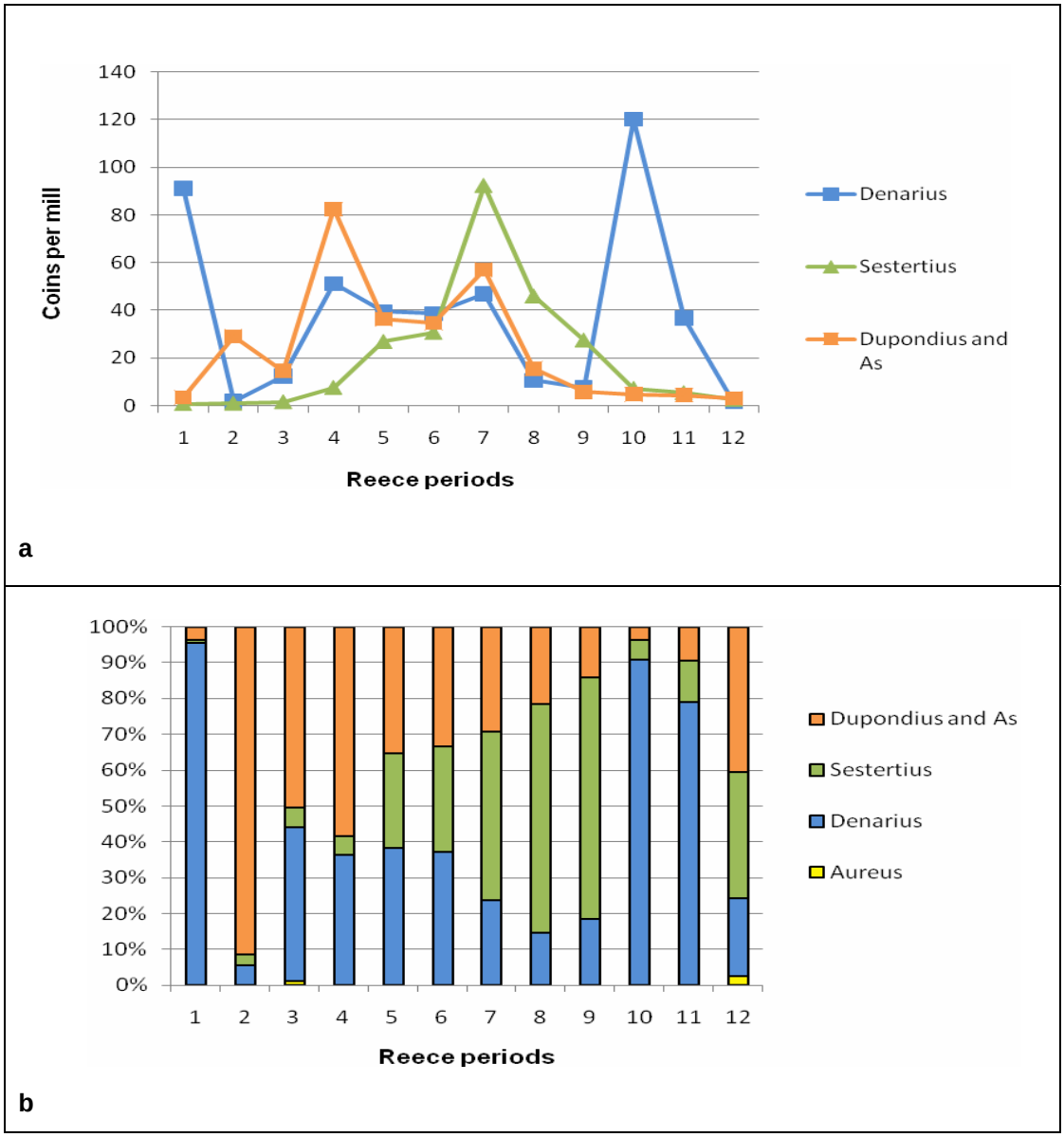


Figure 26: (a) PAS Denominational Mean for the area to the south of the Fosse Way and (b) percentage of each denomination present in the PAS dataset south of the Fosse Way

In the southern Mean, the *denarius* is not the dominant denomination, throughout the first to third centuries AD, except in Period 1 (215BC- AD 41). Rather, bronze denominations play a significant role. Between Periods 2 and 4, the *dupondius* and *as* exhibit much higher values than the other

denominations and account for half of all coins recorded. From Periods 7 (AD 138-161) the *sestertius* grows in dominance so that by Period 9 (AD 180-196), it accounts for nearly 70% of the assemblage.

The variation in the denominational emphasis of the northern and southern means is reinforced when the total of each denomination recorded in Periods 4 and 7 are expressed as percentages. Figure 27 compares percentages of denominations found to the north and south of the Fosse Way issued in Period 4. Figure 28 does the same for Period 7.

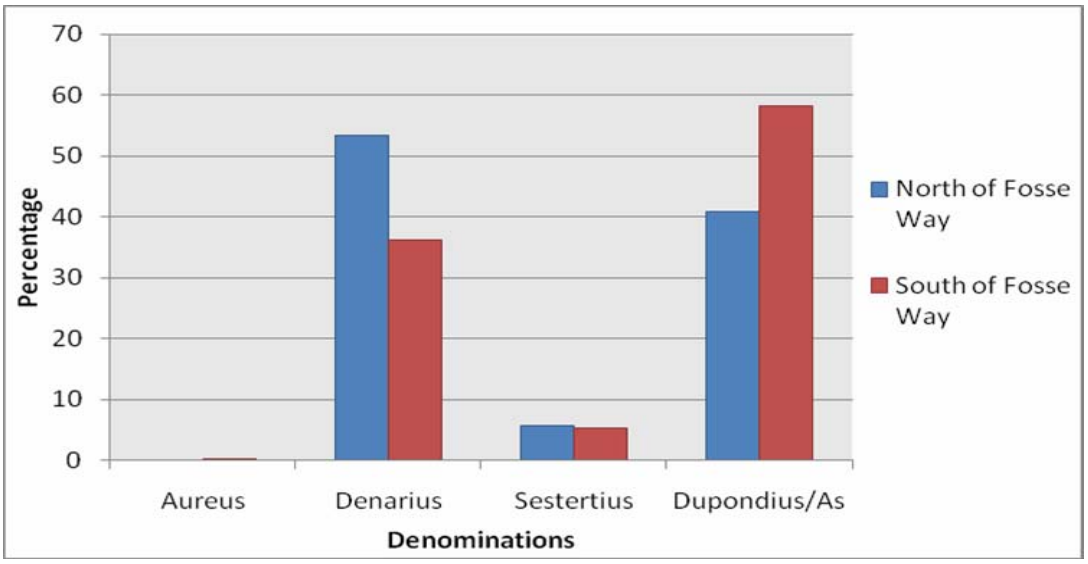


Figure 27: Percentage of each denomination recorded north and south of Fosse Way in Period 4

Of Period 4 issues recorded in the area north of the Fosse Way, *denarii* account for 53% of coins, whilst *dupondii* and *asses* represent 41% and *sestertii* 6%. South of the Fosse Way, the situation is reversed, with *dupondii* and *asses* accounting for 58% of coins and *denarii* 36%. Only the proportion of *sestertii* in each dataset is comparable at 5%.

Of Period 7 issues recorded in the area north of the Fosse Way, *denarii* have increased in dominance, and represent 49% of all coins recorded, whilst there are near equal percentages of *sestertii* and *dupondii* and *asses* at 27% and 24% respectively. South of the Fosse Way, the *sestertius* has become the dominant denomination, representing 47% of all coins recorded whilst the *denarius* only represents 24%. The proportion of *dupondii* and *asses*, however, is similar to that recorded north of the Fosse Way at 29%.

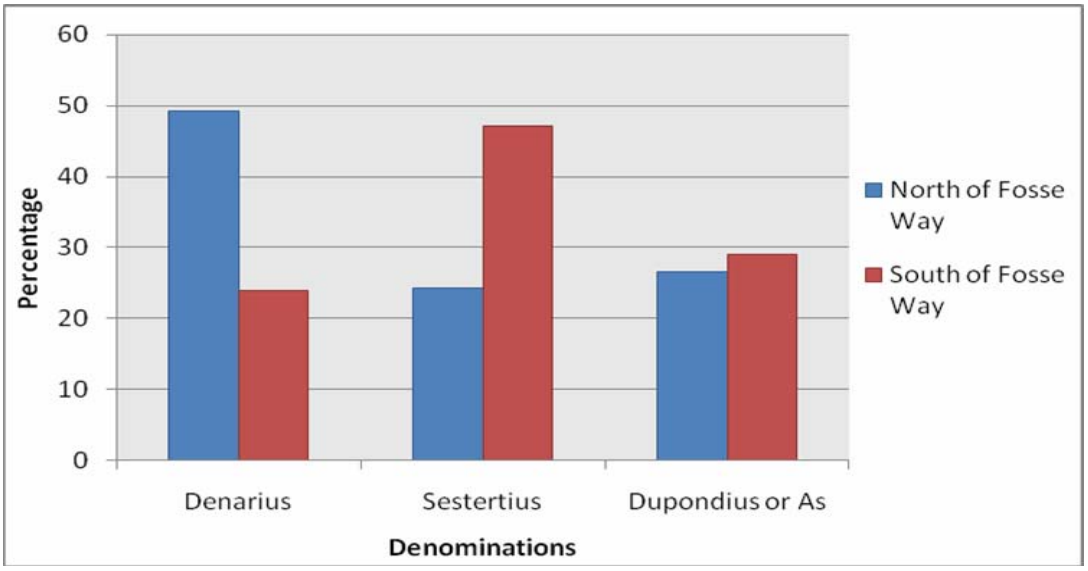


Figure 28: Percentage of each denomination north and south of the Fosse Way in Period 7

4.14 Regional means for other regions

Denominational mean values have also been calculated for two further areas, the Isle of Wight and East Anglia. The *per mill* values for the Isle of Wight are presented in Figure 29, whilst those for East Anglia are presented in Figure 30.

The volume of coinage from the Isle of Wight dating to the period before AD 260 is small, with the assemblage comprising only 294 coins. However, despite this, the mean values do present an interesting pattern of activity for

the island, whilst also reflecting the denominational relationships and peaks in volume observed in the PASDM. Although the *denarius* exhibits a high *per mill* value for Period 1 issues, bronze denominations clearly dominate coin loss patterns during the first to third centuries AD. The *per mill* values for the *sestertius* are particularly striking. Between Periods 5 and 11, the *sestertius* is both the dominant denomination and exhibits values which are more than twice those of its PASDM equivalents. Furthermore, in contrast to the PASM, the peak in volume lies in Period 8 rather than Period 7 and the decline throughout the third century is slow rather than dramatic. This dominance of bronze denominations is a feature of the mean for the area to the south of the Fosse Way, suggesting that the Isle of Wight falls broadly within the overall pattern of coin loss for southern Britain.

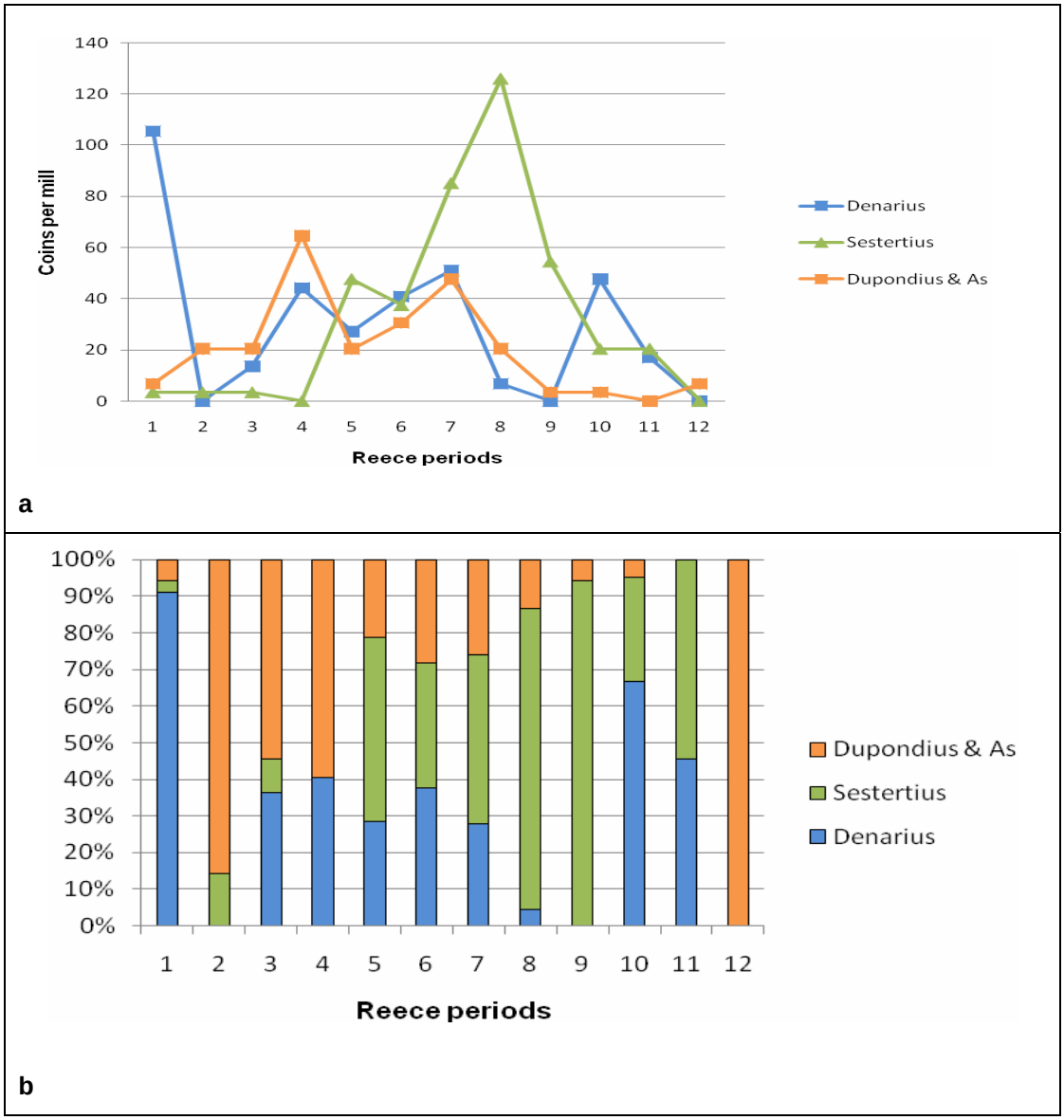


Figure 29: (a) Denominational mean values for the Isle of Wight and (b) percentage of each denomination present in the PAS dataset for the Isle of Wight

The volume of coinage for the period prior to AD 260 is relatively large for East Anglia (including the counties of Norfolk, Suffolk, Essex and Cambridgeshire) and the assemblage comprises a total of 2,157 coins. The denominational relationships and peaks in volume of coinage, established by the PASDM, are also visible in the mean values as demonstrated in Figure 30. However, in the same way as the Isle of Wight, bronze

denominations are dominant. The peak in *dupondii* and *asses* in Period 4 (108 *per mill*) and the peak in *sestertii* in Period 7 (117 *per mill*) far surpass those calculated for the PASDM (69 and 74 *per mill* respectively). Again, this places East Anglia within a southern pattern of coin loss.

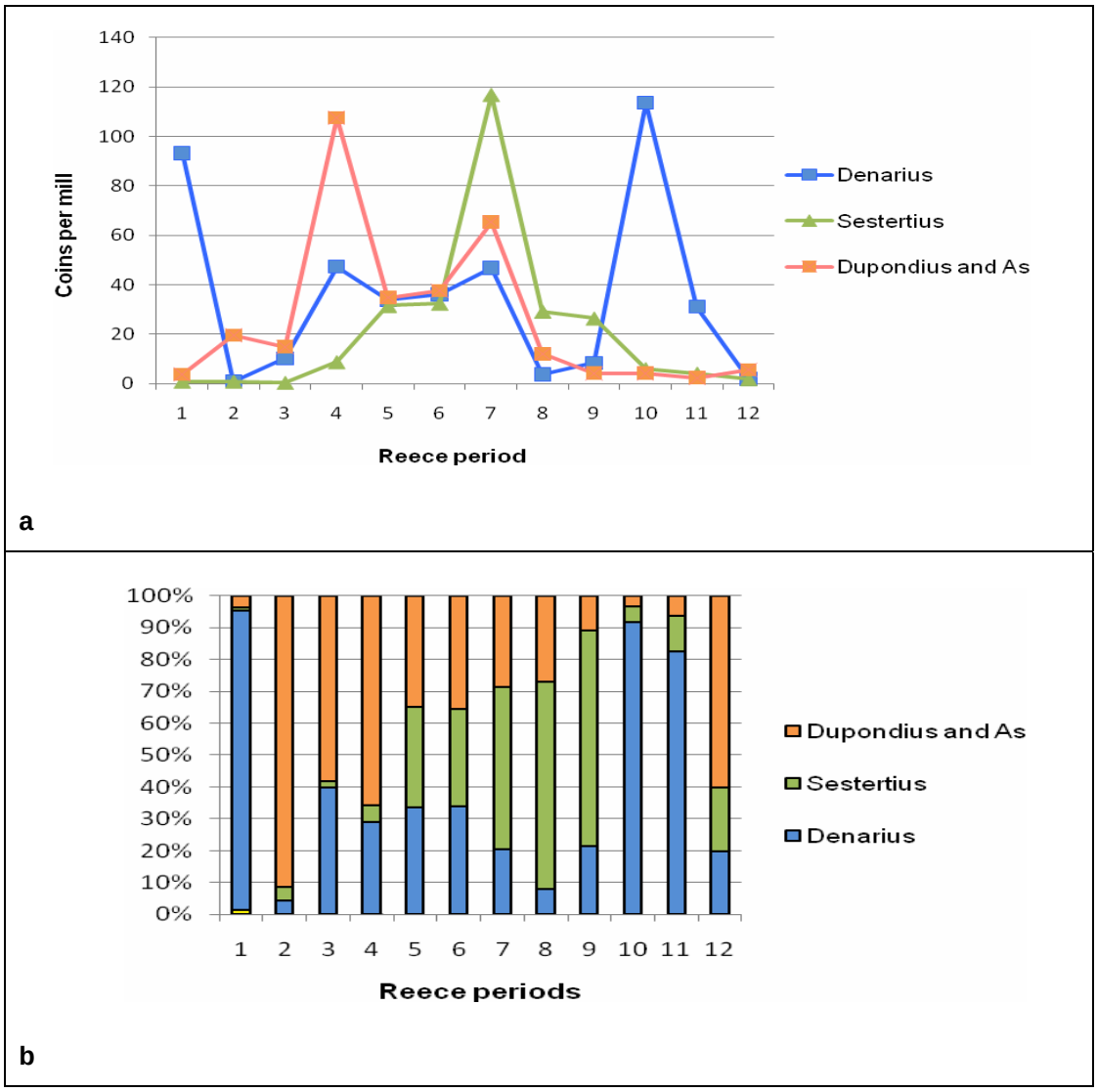


Figure 30: (a) denominational mean values for East Anglia and (b) percentage of each denomination present in the PAS dataset for East Anglia

4.15 Accounting for variation

Establishing that there is variation in the distribution of different denominations throughout the province is relatively easy. Two broad zones

of coin loss can be identified: a northern zone where the emphasis is on *denarii*, with few bronze denominations being lost, and a southern zone where the full range of denominations circulate, but bronze currency is more dominant. What is far more difficult is accounting for this variation, although interconnected processes relating to the character, activity and users in each area are all likely to have provided an influence.

4.15.1 Military influence

It has been noted that throughout the Western Provinces in the first to third centuries AD, civilian provinces (ie. Gaul, Belgica, Italy) received more bronze coinage than military ones (ie. Britain, Upper and Lower Germany, Raetia and Pannonia) (Hobley 1998, 128). Therefore, the regional variation in denominations exhibited by the PAS material may reflect the division of the province into military and civilian zones, each with its own pattern of coin supply. Hence, the military north was supplied predominantly with *denarii* to enable the payment of the army. These *denarii* are accompanied by some bronze denominations to facilitate low value transactions within the military community but were not intended for wider circulation. Meanwhile, the south received a full range of denominations enabling its successful integration into a monetary economy. It is impossible to determine whether it was deliberate mint or imperial policy to supply low value denominations in order to stimulate a monetary economy in the early Roman period or simply the response to an existing demand.

The dominance of the *denarius* in northern Britain and its association with the military is also supported by documentary evidence from the fort at Vindolanda, Northumberland. Of a collection of more than 800 published writing ‘tablets’ from the site, 28 record amounts of money by denomination. Most are interpreted as the receipts or personal accounts of civilian or military traders. 27 employ the *denarius* as the main unit of accounting, even expressing lower denominations as fractions of the *denarius* rather than as

sestertii or *dupondii*. In fact, the *as* is the only bronze denomination used and is listed in 10 receipts in conjunction with *denarii* and in one example alone. It is assumed that the *sestertius* was the usual denominational unit for accounting (Reece 1987a, 32; van Heesch 2007, 80). Therefore, the adoption of the *denarius* for accounting, and presumably actual payment, at Vindolanda is significant. However, again whether this represents a deliberate military decision, a reaction to local circumstances or a combination of both is impossible to ascertain.

4.15.2 Selection by the native population

Studies of Roman coin supply, circulation and loss tend to emphasise the role of the state and the army in its distribution. However, it is also possible that the north-south divide represented by the denominations reflects not only Roman military supply and usage but also the attitude of the native population to coinage. Indeed, the findspots of most coins recorded by the PAS are located not in Roman forts but throughout the countryside. Therefore, the dominance of the *denarius* in the north may be a reflection of the conscious selection of silver currency and the rejection of bronze denominations by the native population. Such behaviour has parallels elsewhere in the Roman Empire and in *Barbaricum*. For example, on the Germanic frontier the native population were reputed to pick out older, silver Roman coinage for use in trade (Tacitus *Germania* 5, 3-5) and this is amply confirmed by finds' evidence from sites outside the Empire. For example, finds on native sites in Scotland show a strong preference for silver *denarii* over bronze small change (Hunter 2007, 218). It is argued that their presence is not indicative of a monetary economy but of Roman diplomatic policy in frontier zones. Indeed, there is some suggestion that *denarii* were regarded as one of many prestige goods by the native population in Scotland (Hunter 2007, 221) and acted as tokens for limited and specialised transactions, for storing wealth and displaying status (Hunter 2007, 218).

Perhaps, the PAS examples from northern Britain should be interpreted in a similar manner?

4.16 Conclusions

This chapter has presented a variety of mean values for coin loss throughout the province of *Britannia.* Analysis of these means has shown the PASM to be essentially rural in nature whilst both the PASM and PASDM highlight regional variations in coin loss patterns. The probable roles of both the army and native population in the supply, circulation and loss of coinage have been discussed and the possibility that particular denominations were employed for particular functions or circumstances explored. Of particular note is the difference in patterns of coin loss between northern and southern Britain throughout the first to third centuries. Such differences have interesting implications for the organisation, monetisation and Romanisation of the province. However, much further research is necessary to extend, elaborate and refine the patterns in Britain and to compare them with those for other western provinces. This chapter provides the foundations on which such research may be undertaken.

Chapter 5

An analysis of Republican and Early Imperial coins (215 BC – AD 41)

5 Introduction

This chapter uses the PAS and comparative dataset of Period 1 coins (215 BC-AD 41) to explore levels of interaction between the Roman Empire and Britain before and after the Roman Conquest in AD 43. It concentrates on addressing three related research questions. When did Period 1 coins arrive in Britain, where did they arrive and in what capacity were they used and lost? These questions have been addressed by interrogating the data in a variety of ways. Analysis of both the geographical distribution of individual issues and of sites with concentrations of Period 1 coins has been undertaken. This has been combined with a survey of the function of comparative sites which have Period 1 coinage and of Cluster Analysis groups with early Roman profiles. The analysis has been supplemented by a comparison of the composition of hoards with site find data.

5.1 Previous study

Studies of the Late Iron Age to early Roman transition in Britain have tended to demonstrate a pre-occupation with the chronology and nature of Roman contact and its effects on late Iron Age communities (Haselgrove 1989, 1). Research in the early twentieth century emphasised the impact of the Roman invasion in AD 43, and presented it as the defining moment in a national transformation from barbarism to civilisation (cf. Haverfield and Macdonald 1924). However, more recent studies have questioned the validity of this interpretation, and instead, have explored the profound consequences of regular diplomatic and trading contacts with the Roman world in the century before the Claudian Conquest (Creighton 2006). It is now argued that transformation and change began, in the later second century BC, rather than 55 BC or AD 43 (Mattingly 2006, 48). Furthermore, the potential for regional variation in the level of contact and in the impact of this contact on different sectors of society are also beginning to be acknowledged.

Despite this interpretative shift, numismatic research on Period 1 coin issues has remained essentially conservative. Study has continued to focus on hoarding, and attempts have been made to link the phenomenon with the manoeuvres of the army in the Conquest period (ie. Bredgar Hoard: Frere and Fulford 2001, 48) or to specific historical events such as the Boudiccan revolt (Orna-Ornstein 1997a). Site find evidence has tended to be overlooked, and whilst scholars have ventured to suggest a connection between early Roman coinage and the payment of the Roman army (eg. Guest 2008f, 139), there has been little attempt to explore the possibility of native acquisition and use of Period 1 coins before AD 43. Of course, study in this field has been hampered by the longevity of circulation of some Period 1 coins.[14] This renders the already difficult process of dating archaeological deposits to one or other side of the Roman Conquest almost impossible. However, two excavation assemblages are known with examples of Period 1 coins deposited prior to AD 43; one from the excavations of the Hayling Island temple complex, Hampshire (Haselgrove 2005, 386ff) and the other from a Late Iron Age settlement site at Elms Farm, Leicester (Haselgrove forthcoming).

Whilst excavation evidence of Period 1 coin use in the Late Iron Age remains elusive, there are several indications that Republican coins were circulating in Britain in some capacity in the first century BC. For example, Republican *denarii* are thought to be the primary source of silver used in the numerous precious metal currencies minted at this time in southern Britain (Fulford 1989, 178). This has been proved in the case of *Atrebatic* issues. Analysis of their silver content has indicated that Republican *denarii* were indeed recycled for use in their manufacture (Northover 1992, 257). This metallurgical evidence has been supplemented by an examination of the iconography of some Iron Age coins. Numerous issues of the late first century BC, including those of Cunobelin and Tincommius, incorporate

[14] See discussion of hoard evidence (Orna-Ornstein 1997a, 27; Reece 1974, 82-84).

iconographic themes of contemporary Roman coinage (Scheers 1992, 34). This demonstrates a familiarity with Roman coin types which is obviously the result of significant interaction with the Roman world (Creighton 2006, 35ff).

5.2 The datasets

The PAS dataset used in this chapter comprises a total of 735 Period 1 coins recorded by the PAS from 467 parishes. The distribution of this dataset is presented in Figure 31. It was downloaded from the PAS database in March 2008 and checked to ensure its accuracy by Sam Moorhead, National Finds Advisor for Iron Age and Roman Coins, in the Department of Portable Antiquities and Treasure at the British Museum. Of the total of 735 coins, only 337 are part of parish assemblages with twenty or more coins.[15] The remaining 398 coins can be classified as 'stray' losses. The *denarius* is the dominant denomination recorded, although gold and bronze denominations are also represented in small numbers. The total of each denomination within the dataset is summarised in Table 12 and their distribution presented in Figure 32a and Figure 32b.

The PAS data is supplemented by three further sources of information. The first source is the comparative dataset which includes details of 1,520 Period 1 coins from 175 sites. This dataset is intended to both reinforce and complement the PAS material. However, it is important to note that there are some biases inherent in the comparative dataset and that some methodological issues arise from its use. For example, the collection method for the comparative dataset is not strictly comparable with that of the PAS. The denominations of individual coins were not noted and therefore analysis of the denominational distribution of the comparative dataset is not

[15] This figure contrasts with the total of 396 Period 1 coins used to calculate the PAS Mean. This discrepancy between datasets is a result of the 'data cleaning' undertaken by Sam Moorhead. All coins described as 'possibly' Republican *denarii* as well as mis-identified issues were removed from analysis.

possible. Furthermore, the comparative dataset has at its core the 140 site assemblages collected by Richard Reece (Reece 1991b). As Reece included details of both Iron Age and Roman issues in his Period 1 totals, figures for some sites will be inflated. Furthermore, the comparative dataset is weighted towards a few very large assemblages and stray finds are disregarded. Although 175 comparative sites possess Period 1 material, the excavation assemblages from Colchester (C078; C079; C080), Richborough (C164) and Springhead (C165; C166; C167) account for more than half the material recorded, thus giving a south eastern bias.

The second source comprises a dataset of 30 hoards from Britain which include Period 1 issues. In contrast to the comparative dataset, the date of issue of Period 1 coins within these hoards has been recorded. This enables an exploration of the composition of coinage circulating in the first century AD. Hoard data have been collected from a variety of resources including Robertson's *Inventory of Romano-British hoards* (Robertson 2000) as well as Treasure reports compiled by the Department of Coins and Medals at the British Museum. A summary of hoards included in this dataset is provided in Table 14.

A small dataset of three Continental hoards with Period 1 coins is also used as a comparative source. These hoards (Arbanats; Mont Souvance and Meussia) have been collected exclusively from Amandry's *Trésors monétaires XX: Meussia (Jura) et autres trésors de la fin de la République et du début de l'Empire* (Amandry 2002). They are not intended as a comprehensive dataset but rather are employed to give an indication of potential patterns of coin loss on the Continent. A summary of these hoards is provided in Table 18.

5.3 The distribution of all PAS coins including stray losses

In this section, analysis of the geographical distribution of the Period 1 dataset is undertaken. Patterns of 'stray' losses and individual denominations are examined and the distribution of parish and site assemblages with Period 1 coins explored to determine whether coins arrived before or after the Roman Conquest. Therefore, both Roman military and native Iron Age contexts are considered.

Figure 31 illustrates the widespread distribution of the 736 Period 1 coins recorded by the PAS. Whilst find-spots are recorded as far north as Hadrian's Wall and as far south as Cornwall, there is significant regional variation in the volume of coins recorded. Particularly high concentrations can be identified in Essex and Suffolk, Hampshire and Sussex, the Midlands, Staffordshire and Lincolnshire as well as on the Isle of Wight. There are also areas where very few Period 1 coin losses have been recorded. These include modern urban areas such as London and Birmingham the Sussex Weald, the Fenland and the Wash, Devon and Cornwall, the Pennines and a band of land adjacent and immediately to the south of the Fosse Way from Wiltshire through to Nottinghamshire.

A total of 689 Period 1 *denarii* have been recorded by the PAS. These are supplemented by three *aureii,* two *quinarii*, 38 bronze denominations and four provincial issues. Figure 32a and Figure 32b illustrate the pattern of coin loss of Period 1 *denarii* and all other denominations. The widespread distribution of *denarii* contrasts significantly with the pattern of *aurei* and bronze denominations which are restricted to southern Britain and in particular to East Anglia and Hampshire. The four Period 1 provincial issues recorded also possess a southern distribution.

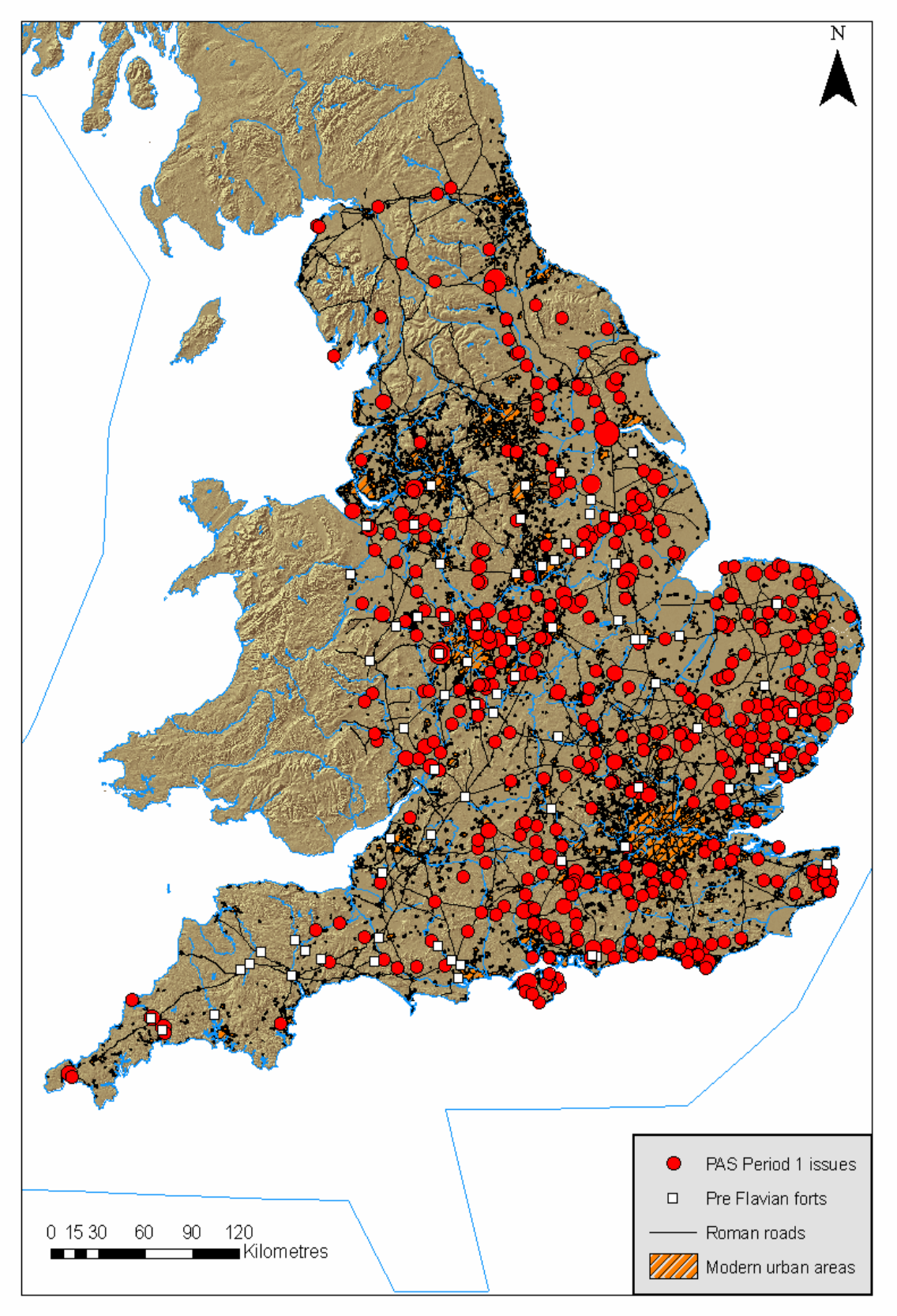


Figure 31: Findspots of all Period 1 issues recorded by the PAS

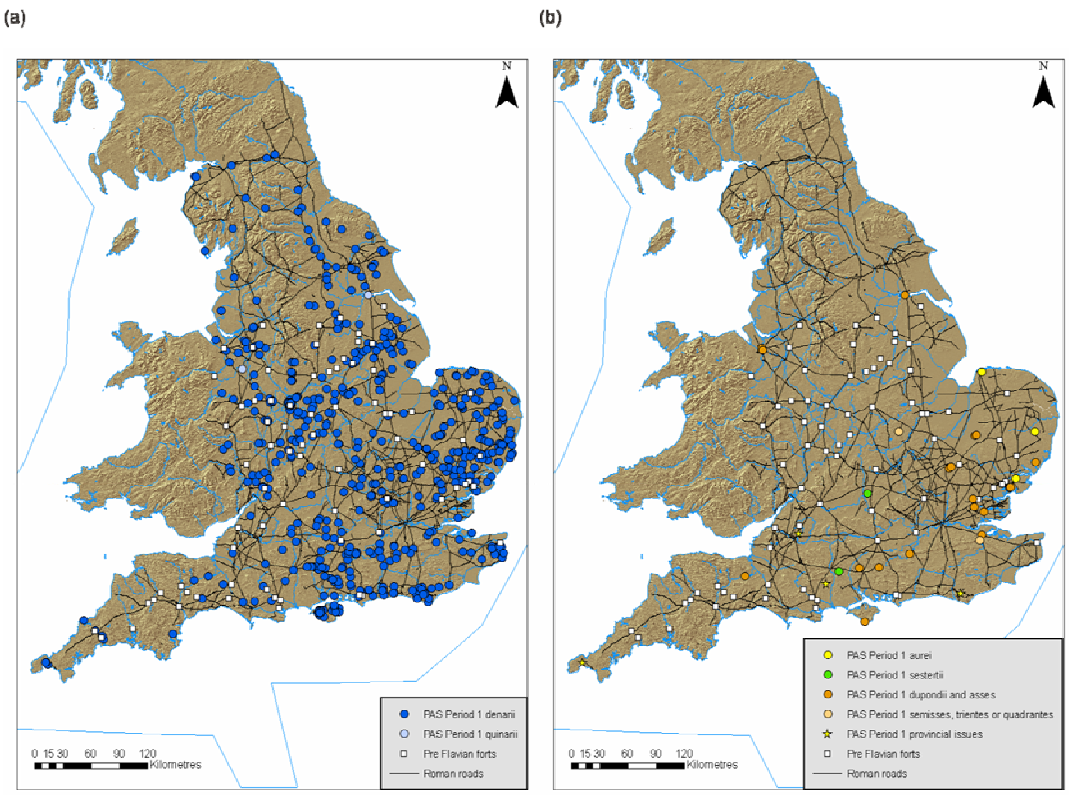


Figure 32: (a) Distribution of Period 1 *denarii* recorded by the PAS and (b) other Period 1 denominations recorded by the PAS

5.4 The distribution of parish profiles and sites

Figure 33a illustrates the distribution of the 152 PAS parish profiles and 175 comparative sites with Period 1 coins whilst Figure 33b illustrates only those parishes and sites with *per mill* values that are twice the PAS Mean (>=20 *per mill*).[16] The inclusion of the latter figure allows sites with above average Period 1 coin loss to be identified. The size of symbol in each figure represents the volume of coins recorded in Figure 33a and varying *per mill* values in Figure 33b. Both figures highlight the benefits of using PAS and comparative data in conjunction whilst also emphasising the contribution of PAS data in the creation of a comprehensive national picture of the distribution of Period 1 coins. Indeed, the PAS data indicates the presence of coins in areas where little comparative material exists such as Essex,

[16] There are 93 parish profiles and 61 comparative sites with Period 1 per mill values >=20.

Hampshire, the Midlands and Lincolnshire, whilst the comparative dataset shows that the absence of PAS data from some areas is not necessarily a reflection of an absence of Period 1 coins. Most strikingly, both figures again emphasise the four regional concentrations of coin loss in East Anglia, Hampshire, the West Midlands and Lincolnshire identified in the distribution of stray finds.

Before an interpretative framework can be applied, it is important to be aware of a range of factors that may either affect or play a part in the creation of the distribution patterns identified. For example, modern and historical geography may account for concentrations of material in some areas and an absence of coins in others. The location and availability of arable land to detector users may affect the numbers of artefacts found. Therefore, the concentrations of coins observed in East Anglia, Hampshire and Lincolnshire are, to a greater or lesser extent, a feature of most artefact distribution patterns, including that for all Roman coinage recorded by the PAS as illustrated in Chapter 3. The virtual impossibility of metal detecting in modern urban areas such as London and Birmingham also affect distribution patterns of PAS data. Furthermore, the degree of modern archaeological study or the legislative protection afforded to particular areas may also distort the distribution pattern. This is particularly evident in Wiltshire, where a cluster of 15 small site assemblages with Period 1 issues is the result of a detailed regional study by Sam Moorhead (Moorhead 2001a and b) and in Lancashire and Cumbria, where excavations of 14 Roman forts with Scheduled Ancient Monument protection provide details for sites where metal detector users are excluded.

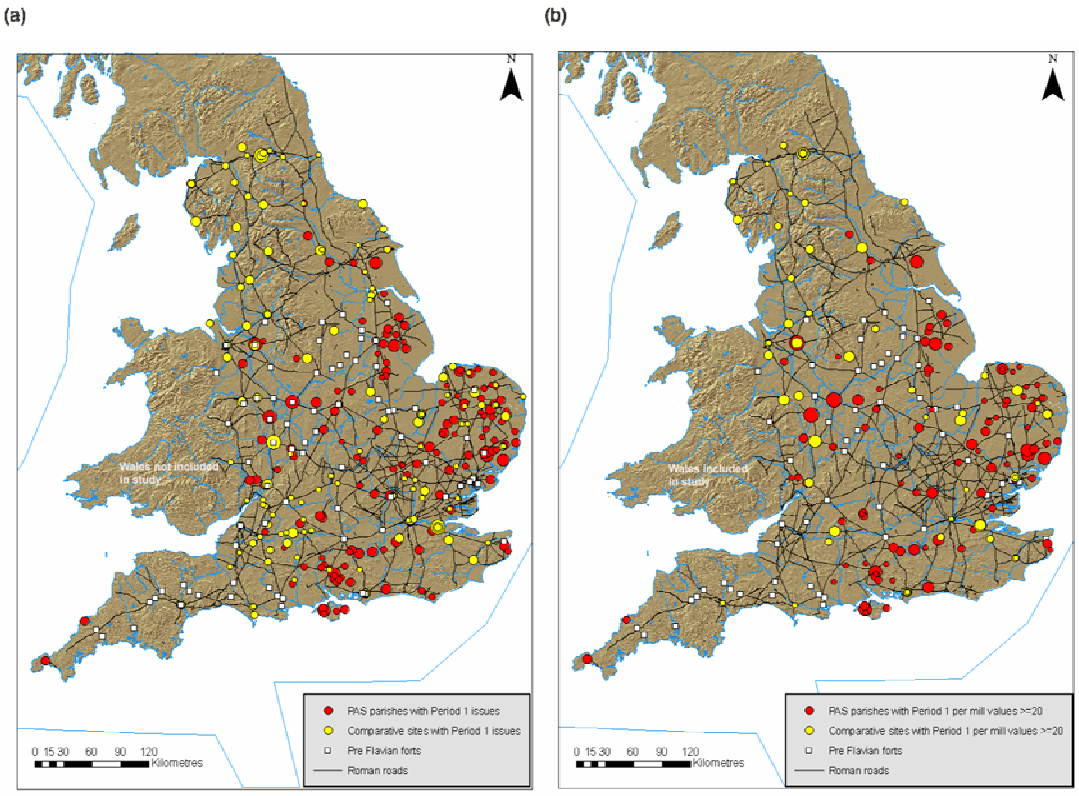


Figure 33: The distribution of (a) all parishes and sites with Period 1 coinage and (b) all parishes and sites with above average amounts of Period 1 coinage

5.5 Period 1 coins and the Roman army

Despite the limitations of the combined dataset, it is still possible to observe distribution patterns at a national and regional level that are worthy of further investigation. Indeed, whilst interpretation must remain tentative, the geographical distribution of Period 1 coins does appear to correlate with the movements of the Roman army in the first century AD. Large numbers of coins are found within the vicinity of both legionary fortresses and pre-Flavian forts, particularly in East Anglia and the west Midlands, whilst numerous clusters of coins can be related more generally to the geography

of the Claudian invasion, campaigning in central Wales and the Flavian advance northwards.[17]

5.6 The Conquest period (AD 43-47)

The academic literature concerning the logistics of the Claudian invasion is huge. Debate centres on the relative merits of Richborough and Chichester as potential landing points. Dio's descriptions and assumptions regarding Roman military strategy appear to be central to interpretation with archaeological evidence frequently assuming a secondary role (eg Bird 2000; Bird 2002; Frere and Fulford 2001; Sauer 2002). Therefore, the introduction of a new source of evidence in the form of Period 1 coinage is welcome. Whilst analysis of their distribution patterns cannot resolve debate, it can provide further stimulus for discussion. Indeed, three areas of concentrated coin loss in eastern Britain illustrated in Figure 34 could plausibly be related to military activity during the initial invasion of AD 43 or to the subsequent consolidation of territory under Aulus Plautius in the period AD 43 to 47.

First is a small concentration of stray finds, parish profiles and sites located to the south of the military and naval base at Richborough, Kent and along the route of Watling Street as far west as London. Whilst Richborough and Watling Street continued to be of importance throughout the Roman period, it is possible that at least some of these early coin losses are related to the role of the former as a landing site during the invasion and of the latter as a major supply artery for the invasion force. It is perhaps surprising given the presumed importance of Kent in the Claudian invasion that more coins have not been recorded for the county although it is possible that this is the result of the research interests of PAS staff in Kent rather than ancient realities.

[17] The lack of Period 1 coins from pre-Flavian forts in Devon requires further investigation. It is not certain whether it is a reflection of ancient patterns of use or a lack of modern excavation, publication or metal detecting.

Even so, the volume of stray losses and parish profiles recorded in Sussex and Hampshire is notable in comparison. The role of Chichester as an early Roman harbour and potential landing site appears to be confirmed by the presence of several comparative assemblages with above average Period 1 coin loss (C309; C310; C311; C314; C315). However, perhaps more striking is the number of parishes with above average coin loss throughout Hampshire and into Surrey, in what was the ancient territory of the *Atrebates.* Concentrations of material are particularly apparent along the Bitterne to Winchester road[18] and again skirting the north western edge of the Weald on a route which corresponds with that of the prehistoric track-way known as the Harrow Way.[19] Elsewhere, such concentrations of coinage might be interpreted as evidence of a significant Roman military presence and indeed, these concentrations could be used to support the south coast invasion theory (Bird 2000). However, there is a scholarly assumption that *Atrebatic* client kingdom status prevented hostile Roman military intervention (Mattingly 2006, 139).

The third area with significant Roman coin loss encompasses the counties of Essex and Suffolk. This region and particularly Colchester/Camulodunum, was a focus of tremendous military activity during the first years of Roman occupation. It acted as base for Aulus Plautius' campaigning to the west, north and north west (Mattingly 2006, 98) and was of key importance in the Boudiccan revolt. Whilst Colchester (ESSE002; C079; C080) and its hinterland do exhibit reasonable levels of Period 1 coin loss, the highest volume is in an area to the north east with Baylham's House fort in the parish of Coddenham (SUFF0046; SUFF0049; SUFF0168) acting as a particular focus of activity. The PAS data from this site provides reinforcement for the presumed Claudian date for Baylham's House fort,

[18] HAMP0010: Bishop Waltham; HAMP0109: Upham; HAMP0085: Owslebury; HAMP0117: Winchester.
[19] HAMP0049: Greywell; HAMP0031: Crondall; SURR0042: Wanborough; SURR0044: West Clandon; SURR0023: Leatherhead.

which at present is known from aerial photography alone (Maxwell and Wilson 1987, 8).

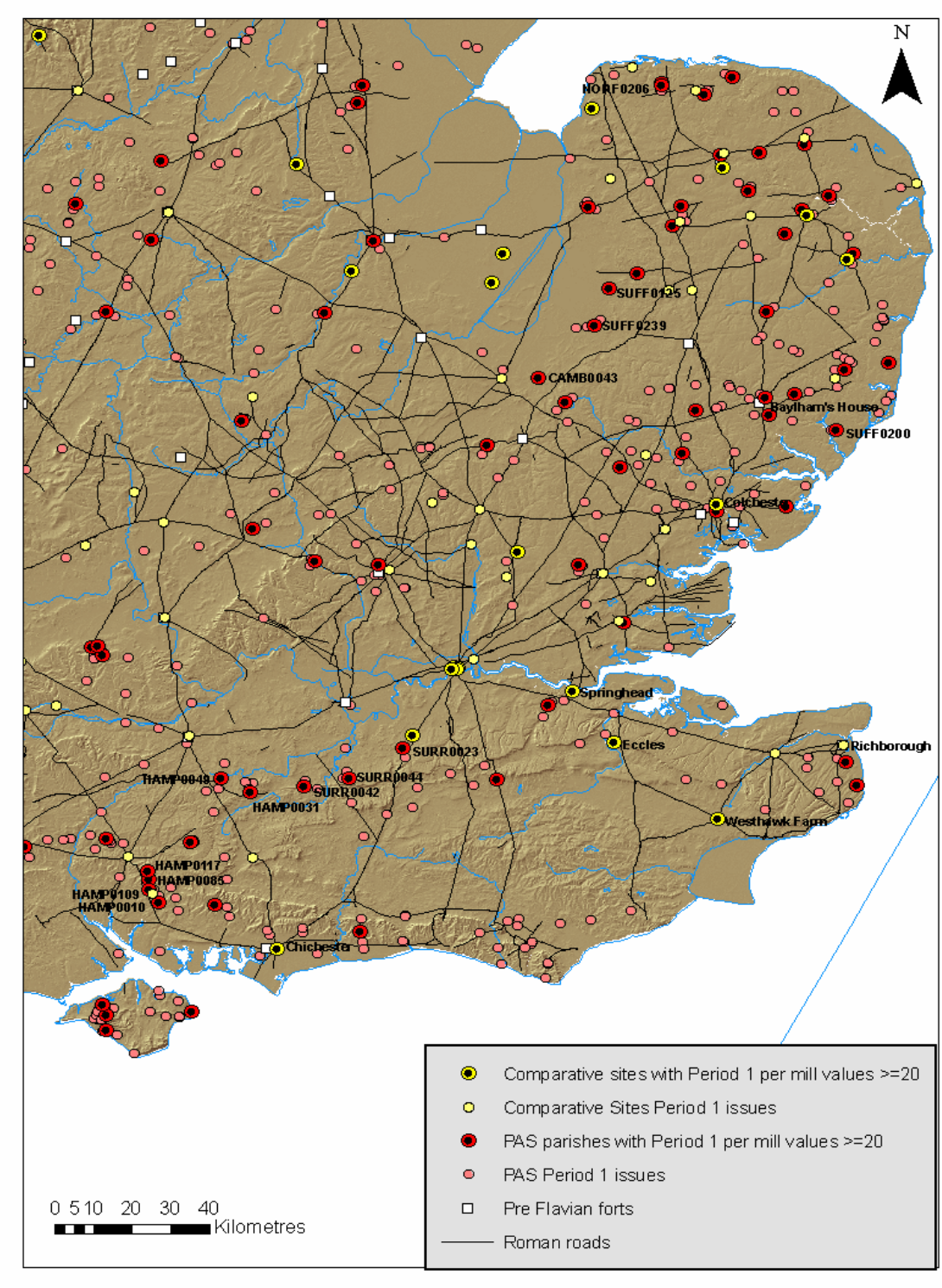


Figure 34: Sites mentioned in the text in eastern Britain

5.7 Campaigning in central Wales (AD 48-70s)

The volume of Period 1 coin loss recorded for the West Midlands and Staffordshire is a striking feature of the national distribution pattern of Period 1 coins and is illustrated by Figure 35. It is not a feature either of Iron Age coin distributions (Figure 37) or of other Reece periods and is therefore likely to represent a phenomenon peculiar to the first century AD. The majority of Period 1 coin losses suggest a military link. Numerous stray losses are recorded in the vicinity of the pre-Flavian fort at Kinvaston and in the area flanked by the Alcester to Wall road and the Fosse Way. These are accompanied by above average *per mill* values for the parishes in which Greensforge (STAFF0038) and Wall (STAFF0044) forts are located and for a site in Twycross (LEIC0097) which may indicate the location of a further pre-Flavian military installation. Indeed, the area was of considerable strategic importance during Ostorius Scapula's military campaigns against the Deceangli in North Wales in AD 48 and in subsequent campaigning between AD 52 and the mid 70s AD (Jones and Mattingly 1990, 62). The military installations on Watling Street such as Mancetter, Wall, Kinvaston, Leighton and Wroxeter would have served as mustering points, supply bases and operational headquarters for this campaigning (Jones and Mattingly 1990, 79).

5.8 Flavian period advancement

The pattern of loss of Period 1 coins is not restricted to forts with Claudian and Neronian associations. Indeed, in northern and central Britain, there appears also to be a correlation between Period 1 coins and the Flavian (and to a lesser extent, Trajanic and Hadrianic) campaigns. PAS stray losses cluster along Dere Street and Ermine Street between Brough on Humber and York, whilst both comparative and PAS assemblages are recorded in or close to significant military installations, particularly in the north west. Again, it is outside the scope of the current study to discuss

every concentration of coins; instead three have been selected for more detailed investigation.

The first concentration is located to the south west of the legionary fortress at Lincoln which was established by AD 60 (Taylor 2001b, 8). It comprises a series of stray losses following the route of the Fosse Way from Lincoln to Thorpe-by-Newark fort. These stray losses may relate to transient military activity at small military encampments such as that identified at East Stoke through aerial photography (St John 1953, 91). However, the significant concentrations of Period 1 coin loss to the north east and south east of Lincoln are more difficult to interpret and will be discussed in the context of possible Late Iron Age coin use below.

The second concentration comprises both comparative and PAS material from the parish of Old Winteringham situated to the north of Lincoln at the point where Ermine Street meets the Humber estuary. Although the PAS parish profile does not exhibit above average Period 1 *per mill* values due to the numerical issue of closure,[20] the parish does have the largest Period 1 assemblage recorded by the PAS and includes 23 *denarii*, 1 *quinarius* and 8 *asses.* The presence of these coins, particularly of the scarce bronze issues, indicates significant levels of early Roman activity in the parish, probably of a military nature. It is therefore not surprising that the site has been suggested as the location of a Flavian military installation of some kind (Taylor 2001b, 8; Whitwell 1995, 98ff). Certainly, its strategic location would be appropriate for a fort and the site deserves an intensive programme of archaeological investigation.

The third concentration of Period 1 coin issues is located to the west, in Cheshire. Whilst the legionary fortress at Chester has two comparative assemblages with above average Period 1 coin loss (C024; C025), it is the

[20] The presence of substantial numbers of later coins obscures the significance of the earlier issues.

PAS data from Middlewich (CHES0039; C028) and adjacent parishes that provide the most significant concentration of PAS material in the area. Indeed, the high *per mill* value for the parish suggest significant levels of early Roman activity, with a military element. Whilst Roman occupation at Middlewich has been recognised since the nineteenth century, until recently it was interpreted as civilian salt production site. In 2000, Shotter suggested it as the location of a legionary vexillation fortress which recent aerial photography and survey has confirmed (Shotter 2000, 107).

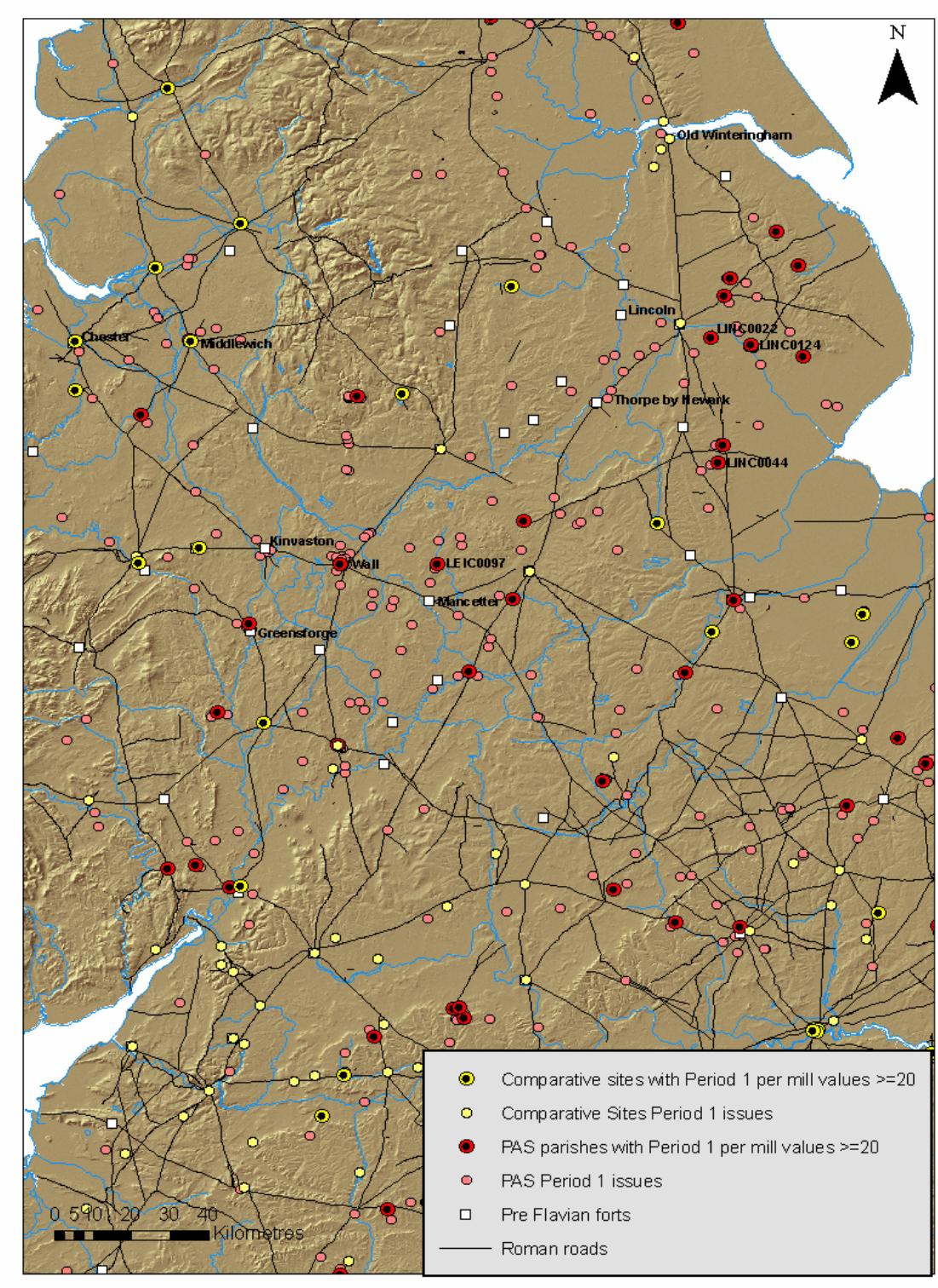


Figure 35: Sites mentioned in the text in northern Britain

5.9 Stray losses and military campaigning

The analysis undertaken above can be supplemented by comparing the proportion of stray losses and small groups of coins in each county with the proportion of parish assemblages recorded by the PAS. Stray losses have generally been ignored in applied numismatic research due to the difficulty in integrating them into numerical and statistical testing. However, in the context of Period 1, study of their distribution is particularly important as their presence may indicate areas with high levels of short-lived or transient coin using activity such as that associated with military campaigning. Such areas would be overlooked if only parish assemblages of twenty or more coins were examined.

At a national level, 46% of the PAS Period 1 dataset are either stray losses or found in groups of fewer than twenty coins. However, the proportion of stray losses to parish assemblages varies from county to county, as Figure 36 and Table 15 demonstrate. For example, in Cumbria, stray losses account for 100% of Period 1 coins recorded whilst in County Durham, they only represent 9% of all Period 1 coins. Whilst interpretation of this data must remain tentative, two observations can be made. First, it is striking that the areas with the highest percentage of stray losses correspond with the geography of the Claudian invasion and later first century campaigning discussed above. Indeed, areas with intensive and yet transient military activity in the first century AD such as Kent, the Midlands and northern Britain are dominated by stray coin loss.

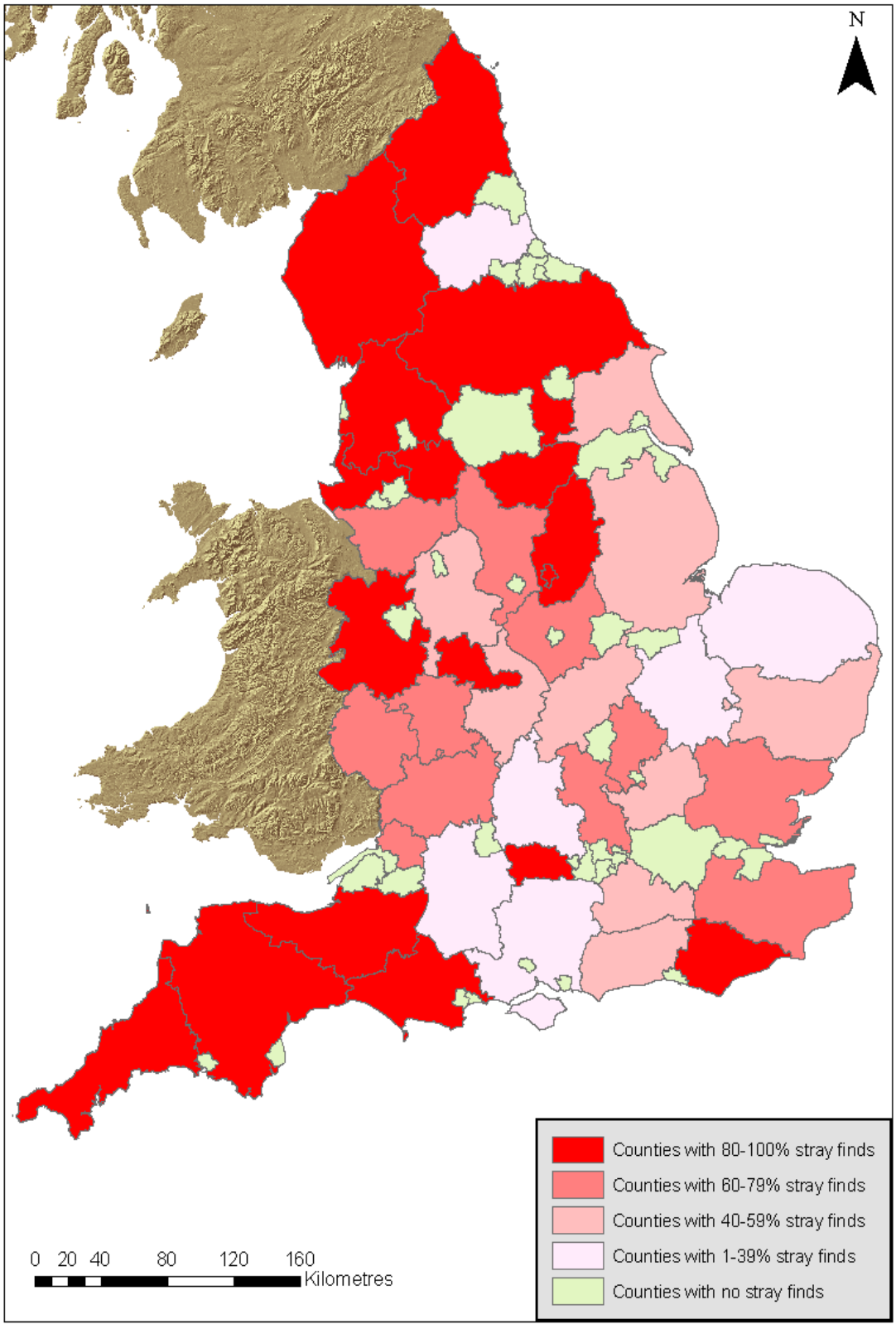


Figure 36: The proportion of Period 1 stray losses by county

Second, there also appears to be a correlation between regions with high proportions of stray losses and areas where coin loss is low both in the Late Iron Age and the rest of the Roman period. These areas include Somerset and Dorset and northern Britain as a whole. This may suggest that the introduction of coinage by the military was not sufficient stimulus for the prolonged monetisation of the economy to occur or for the native population to adopt coinage for whatever purpose. Whilst Period 1 *denarii* may have been retained by the native population in these areas, it may have been more for their silver content rather than for use as money.

5.10 The distribution of bronze denominations

The distribution of 37 Period 1 bronze denominations illustrated in Figure 32b also reinforces the argument for a connection between Period 1 coins and the Roman army. Indeed, their distribution bears a striking similarity to the geography of Conquest and consolidation highlighted above. The majority of issues are part of the concentrations observed in East Anglia and Hampshire respectively whilst north of the Fosse Way, small groups of *asses* are known from the hinterland of Chester legionary fortress and from Old Winteringham, North Lincolnshire. Interestingly, despite the volume of *denarii* from the West Midlands and Staffordshire, no bronze denominations are recorded. This may be a reflection of the way in which different denominations were used by the army and circulated during campaigning – the presence of *denarii* may represent the interaction of the army with the local population, whilst bronze denominations represent intra-military transactions?

5.11 Period 1 coin loss and the native population

The above analysis has established a clear link between Period 1 coin loss and the Roman army. However, not all Period 1 coin loss can or should necessarily be interpreted in this manner. The acquisition of Period 1 coinage by native communities through trading and diplomatic contact with

both Gaul and the Roman world during the Late Iron Age and early Roman period must also be considered.[21]

5.12 Period 1 coinage and native settlement

Period 1 coinage recorded by the PAS is a feature of the coin record for numerous parishes with evidence of Late Iron Age settlements, particularly in East Anglia and Lincolnshire. These include Sutton (SUFF0200), Worlington (SUFF0239) and Lakenheath in Suffolk (SUFF0125), Little Wilbraham (CAMB0043) in Cambridgeshire, as well as Lissington (LINC0075) and Folkingham (LINC0044) in Lincolnshire. It is notable that these sites fall within the area most familiar with coin use in the Late Iron Age as illustrated by Figure 37 and it is therefore possible that their presence represents the pre-Claudian acquisition, retention and usage of Period 1 coinage by Iron Age communities. However, the continuity of site occupation from the Late Iron Age into the Roman period, combined with the long circulation life of Period 1 coins, mean that the coins may also signal interaction with the Roman army in the immediate post-conquest period.[22]

5.13 Period 1 coinage and networks of trade and exchange

Concentrations of Period 1 coins are also located in areas where evidence for long distance networks of trade and communication in the Late Iron Age is most prolific. Whilst the significance of these networks will be explored more fully in the context of the study of the Isle of Wight presented in Chapter 9, several points of interest should be noted here. First, the four provincial Period 1 issues recorded by the PAS all possess a southern distribution which may reflect their connection with Continental trade. Furthermore, coin scatters along the Sussex coast, on the Isle of Wight and

[21] The composition of the numismatic assemblage alone is used to argue for a military presence at Westhawk Farm, Kent despite a lack of military architecture or small finds. (Guest 2008f, 139).

[22] Presumably some of the single finds of Period 1 issues could also come from sites with Late Iron Age settlement. A thorough investigation of Historic Environment Record data is necessary to establish this, something outside the scope of this thesis.

in Hampshire correspond to the distribution of foreign pottery imports dating to the first century BC, such as Dressel 1A and 1B (Jones and Mattingly 2000, 58-59). Indeed, the Atrebatic territory is one of the few areas where the presence of Period 1 coinage in the Late Iron Age has been proved categorically (Northover 1992). Therefore, trading or diplomatic links might provide an alternative context for the concentrations of material from the Winchester area discussed above.

5.14 Period 1 coinage and religious practice

Excavations at Hayling Island and Hallaton have demonstrated a link between Period 1 coinage, Late Iron Age temples and votive deposition (Haselgrove 2005, 386ff; Leins 2007). This link appears to be reflected in the concentration of stray losses and parish assemblages recorded to the south east of Lincoln, particularly in the parishes of Branston and Mere (LINC0022) and Stixwould (LINC0124) in the Witham valley. Unlike the material recorded to the south west of Lincoln, these Period 1 coins possess no obvious military context and are not associated either with Roman roads or known military installations. However, the coins are recorded within a landscape which includes sites such as Fiskerton which is known for its extensive prehistoric settlement and riverine votive deposition (Field and Parker Pearson 2003). It is therefore possible that Period 1 coins found here reflect the pre-Claudian acquisition of Roman coinage by the native population for use in settlement or ritual activity. Indeed, Period 1 coins are also found at a number of other temple or votive sites where water is incorporated into the ritual. These include Springhead, Kent (C165, C166, C167), Westhawk Farm, Kent (C172, C173) Greywell, Hampshire (HAMP0031) and North Creake, Norfolk (NORF0206). However, again there may be a military link. Sauer (2005) argues the deposition of coins in votive contexts is essentially a military phenomenon. It is possible that the presence of these Period 1 coins may represent the military patronage of

native cults and the army's presence at cult centres in the immediate post-Conquest period as part of a wider strategy to establish authority.

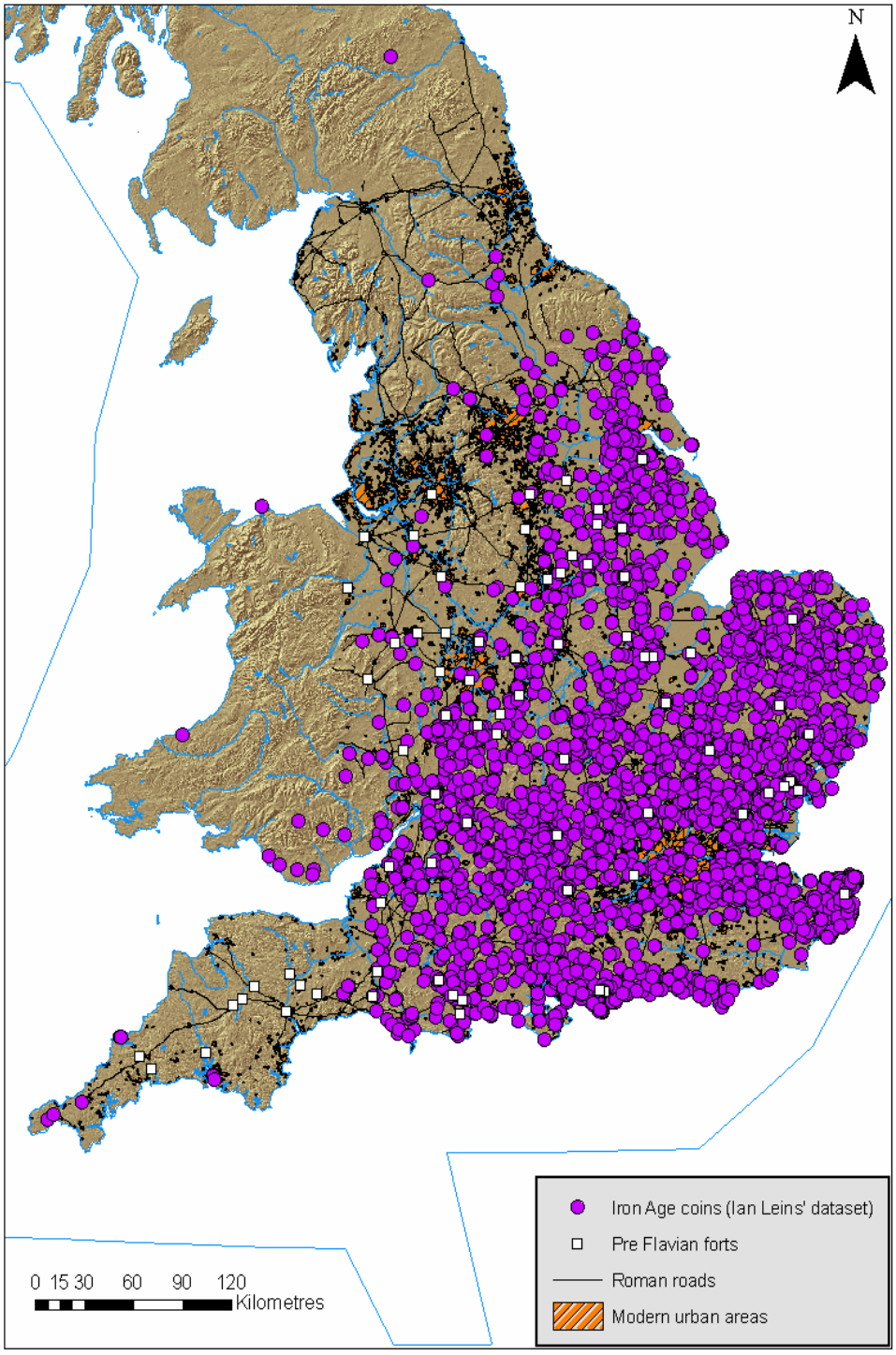


Figure 37: The distribution of Iron Age coins in the study area

5.15 The distribution of Reece Period 1 coinage by issue date

Analysis of the geographical distribution of all coins regardless of their issue dates suggests that Roman military activity in the first century AD was the dominant but not the only activity responsible for its deposition. Indeed, there are indicators that native communities also acquired, used and deposited Roman coins although the date at which this occurred and the extent to which it happened is open to debate.

Despite the long circulation life of Period 1 coins, their distribution pattern by issue date has also been undertaken to investigate whether it indicates anything about the date and context of deposition. To enable such analysis, PAS Period 1 coins in all denominations have been assigned to one of twenty one chronological subdivisions using a framework devised by Sam Moorhead (Moorhead *pers comm.*). For the Republican period, each subdivision spans a ten year period, whilst from Augustus onwards, imperial reigns are used. The date range for each subdivision and the total number of coins assigned to each are summarised in Table 11. For ease of graphical presentation, the subdivisions have been grouped together into three fifty-year periods between subdivision 1 and subdivision 15 and one larger subdivision for the late first century BC and early first century AD. Subdivisions by group are presented in Figure 38.

Figure 38a illustrates the scattered distribution of the three earliest issues (those dating to between 211 BC and 160 BC) which are found in both southern and northern Britain. This distribution pattern is augmented substantially in Figure 38b where issues dating to between 159 BC and 110 BC are plotted. Small clusters of coins are evident in south-eastern Britain, particularly in Suffolk, Surrey and on the Sussex coast and are supplemented by further clusters north of the Fosse Way, most notably in the Midlands and Lincolnshire. This distribution pattern is mirrored by issues of Periods 11 to 15 (99 BC – 60 BC) and 16 to 21 (59 BC – AD 41)

illustrated by Figure 38c and Figure 38d. Of particular note are the increased volumes of coin loss in East Anglia, Sussex and Hampshire.

The widespread distribution of Period 1 coins within each grouping, coupled with the lack of variation in pattern over time indicates that whatever the date of their arrival, most issues were deposited within a short-lived time frame. Indeed, the presence of coinage in northern Britain, which enjoyed little contact either with the Roman world or with coinage in the Late Iron Age, suggests that this time frame corresponds with the Claudian Conquest and subsequent first century campaigning.

Figure 38: The distribution of PAS Period 1 coins in (a) subdivisions 1-5; (b) subdivisions 6-10; c) subdivisions 11-15; and (d) subdivisions 16-21

5.16 The function of comparative sites with Period 1 coins

An exploration of the function of sites with Period 1 coinage may also provide an indication of both the users of Period 1 coinage and the date of deposition. Whilst the function of sites represented by PAS parish profiles must in most cases remain tentative due to the nature of the dataset, those of comparative sites are known. Therefore, a brief survey of the primary function of comparative sites with above average Period 1 coin loss (>=20 *per mill*) has also been undertaken. Figure 39 details the results of this survey, whilst the data used is summarised in Table 16. From a total of 61 sites, 29 (47%) are military installations and 15 (24%) urban foundations. Unclassified rural sites, villas and temples are also represented but only in small numbers. This contrasts markedly with the functional composition of the comparative dataset as a whole. Military sites only account for 18% of all sites whilst unclassified rural and urban sites are the dominant functional categories.

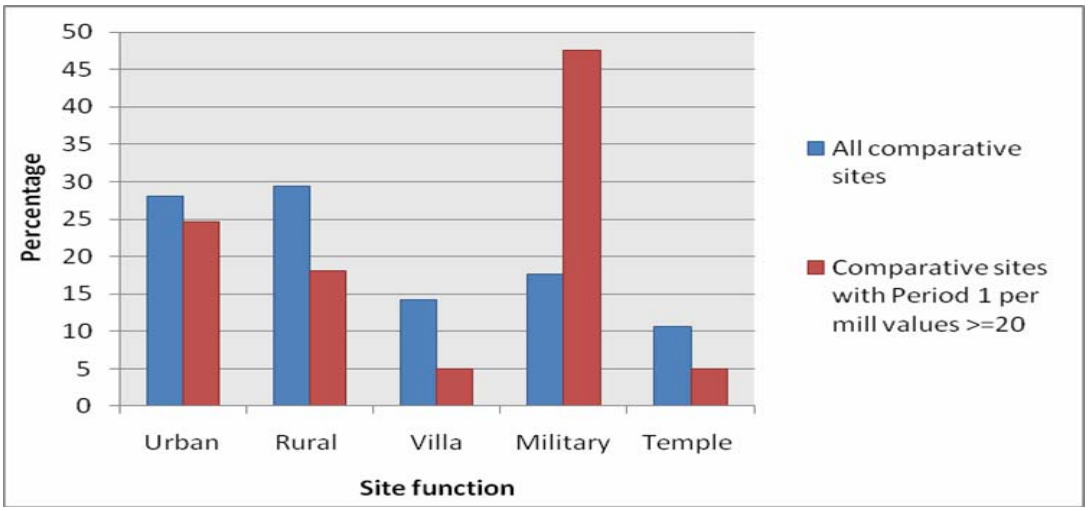


Figure 39: The function of comparative sites with a Period 1 value >=20 *per mill*

This *per mill* analysis has also been supplemented by an investigation of the function of sites within Cluster Analysis groups with early Roman profiles. In the second Cluster Analysis (which uses both PAS and comparative data)

only one group possesses a profile with above average Period 1 coin loss: Group 10. Group 10 comprises fifteen assemblages, twelve of which are comparative sites. The *per mill* profile for the group is presented in Figure 40 and the details of its members summarised in Table 13. First and second century coin loss is emphasised, with *per mill* values for Periods 1 to 8 (pre AD 43- AD 180) which are consistently double those of the PASM. Indeed, the Period 1 *per mill* value is nearly eight times that of the PASM at 78.8 *per mill*.

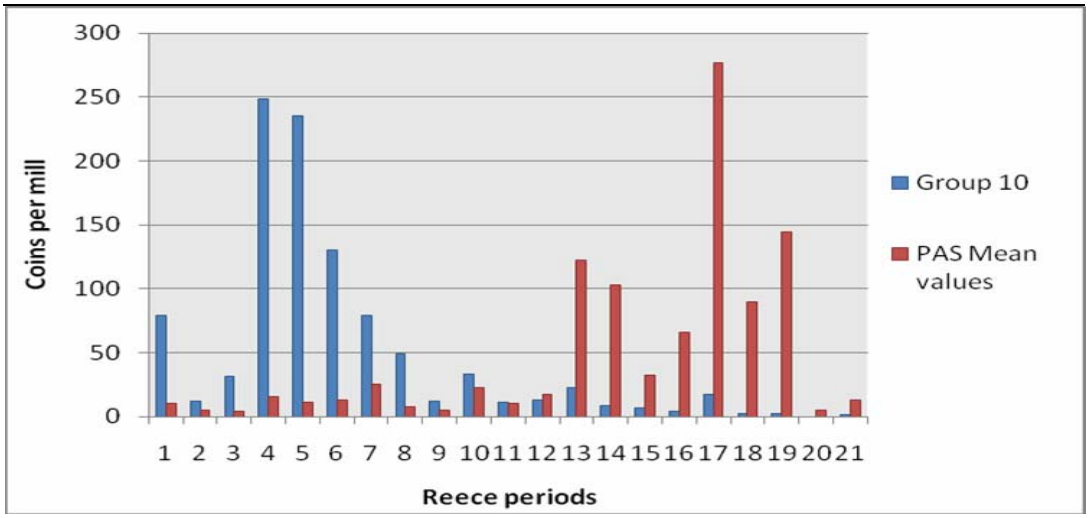


Figure 40: Cluster Analysis H30 Group 10 compared with the PAS Mean

Comparative sites with a military function dominate Group 10 as Figure 41 illustrates. Eight sites (66.6%) are forts, two are unclassified rural sites, whilst single assemblages are known from a temple/votive deposit and an urban site respectively. Furthermore, the PAS parishes assigned to Group 10 comprise Middlewich (CHES0039), Wall (STAFF0044) and Claydon (SUFF0046), all of which are the sites of documented pre-Flavian forts.

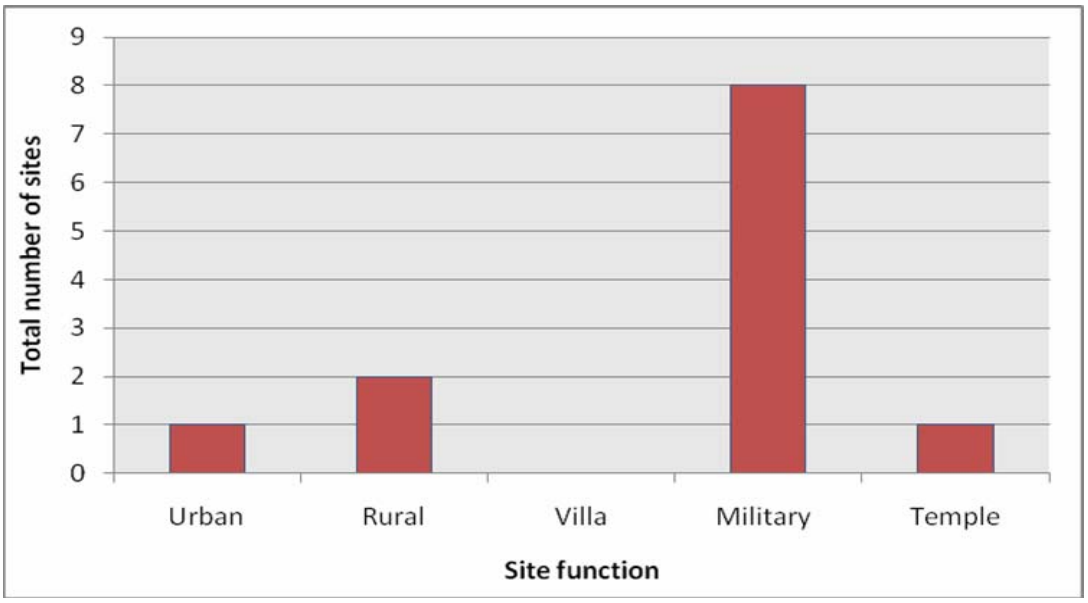


Figure 41: The function of comparative sites in CA Group 10

The results of both surveys of site function accord well with the conclusions of the analysis of distribution patterns. They confirm that although there is a strong link between the activities of the Roman army in the first century AD and the loss of Period 1 coinage, this link is not exclusive. Period 1 coins are also found at rural and temple sites suggesting a degree of native use. What is more difficult to establish is the date at which this native use took place.

5.17 Comparing PAS Period 1 profile with hoard data

Analysis of the volume of Period 1 coins by issue date may also give some indication of the chronology of Period 1 coin loss. Indeed, using the chronological framework of 21 subdivisions introduced above and the dating of issues applied by Michael Crawford (Crawford 1974)[23], the implications of the overall profile of PAS Period 1 coins (as illustrated in Figure 42) can be explored. Although the date range of PAS Period 1 coins is wide, the

[23] There has been criticism of the precision with which dates have been allocated to Republican coins by Crawford. See, for example, Mattingly 1977. This may affect the proportions of issues in each Period 1 subdivision.

greatest volume of issues is recorded for the late Republican and early imperial period. A particular peak can be seen for issues dating to Periods 17 to 20 (49 BC to AD 37) although Periods 10 to 14 (119 BC to 70 BC) also exhibit relatively high numbers of issues. These peaks may relate to periods of more intense activity or indeed reflect fluctuations in the numbers of coins issued, but without comparanda, interpretation remains difficult.

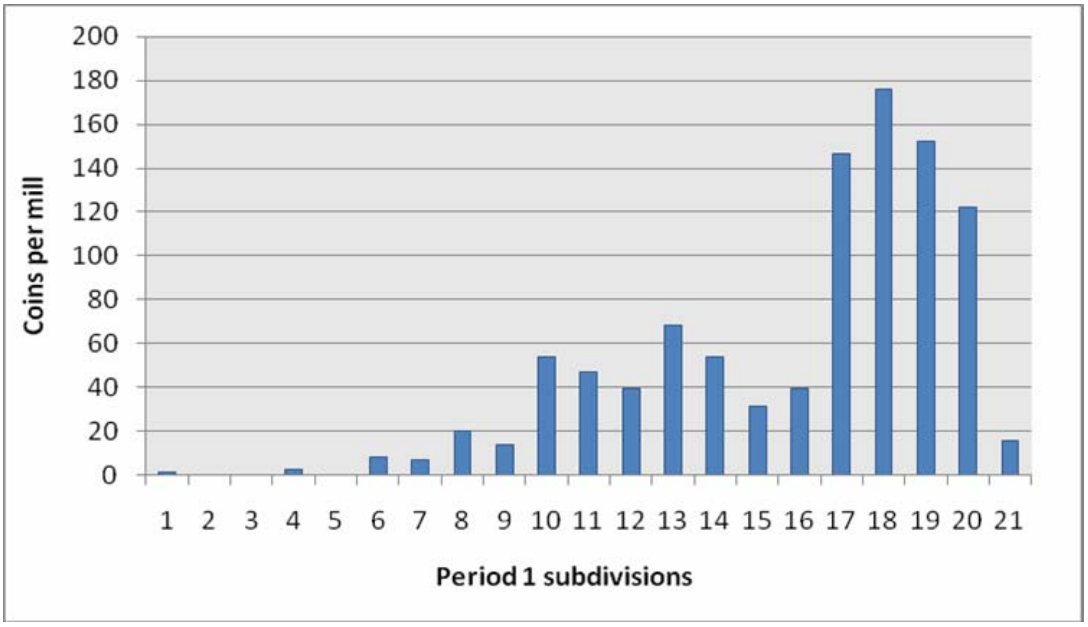


Figure 42: PAS Period 1 profile subdivided

Therefore, two datasets have been collected to act as comparative sources. First, 30 hoards from Britain with Period 1 coins (detailed in Table 14) have been combined to create a comparative British hoard *per mill* profile. This profile has been set alongside the PAS Period 1 profile in Figure 43. It is evident that there is considerable similarity in the proportions recorded. This indicates that the PAS material and coins in hoards come from the same coinage pool and are both likely to be largely representative of coins in circulation. The similarity between the two datasets also confirms the validity of the PAS data.

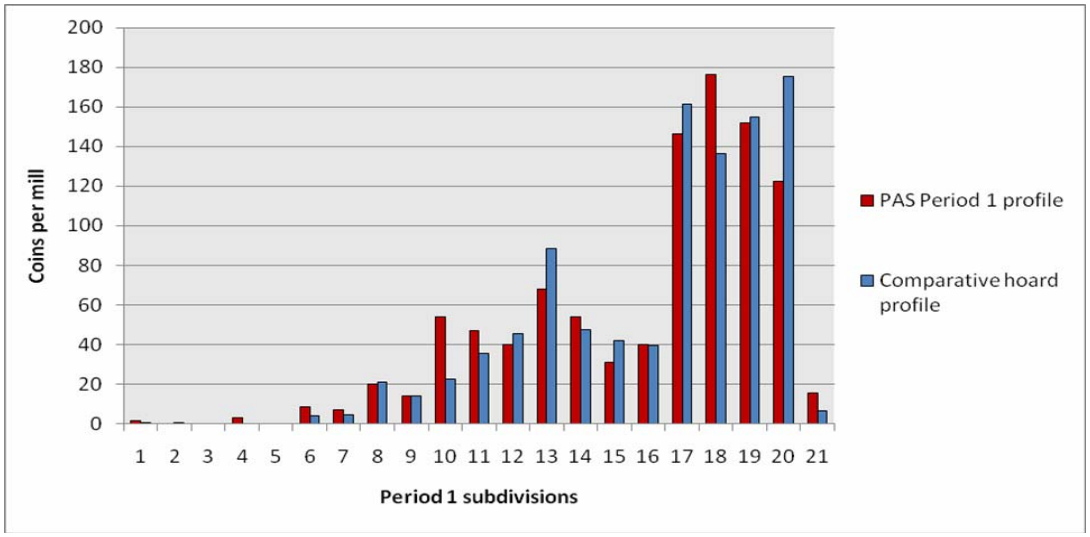


Figure 43: The chronological composition of the PAS Period 1 dataset compared with hoard evidence

However, there are three points of divergence between the two sets of values that are worthy of further investigation. These fall in Period 10, 18 and 20. Firstly, the value for subdivision 10 (119-110 BC) in the PAS Period 1 profile (53.97 *per mill*) is more than twice that of the equivalent hoard value of 22.73 *per mill*. It is not clear how to interpret this difference. Die counts for *denarii* of the period (Crawford 1974, 642ff and Table 17) indicate that the peak was not created by a contemporary increase in the production of *denarii*. Activity of some kind, perhaps military campaigning in Gaul and Germany in the late second century BC may be responsible. However, the distribution pattern of subdivision 10 coins appears little different to that of other Period 1 subdivisions as Figure 44 illustrates. This suggests that even if Period 1 coins were arriving in Britain at an early date, they were probably not being deposited until the post Conquest period.

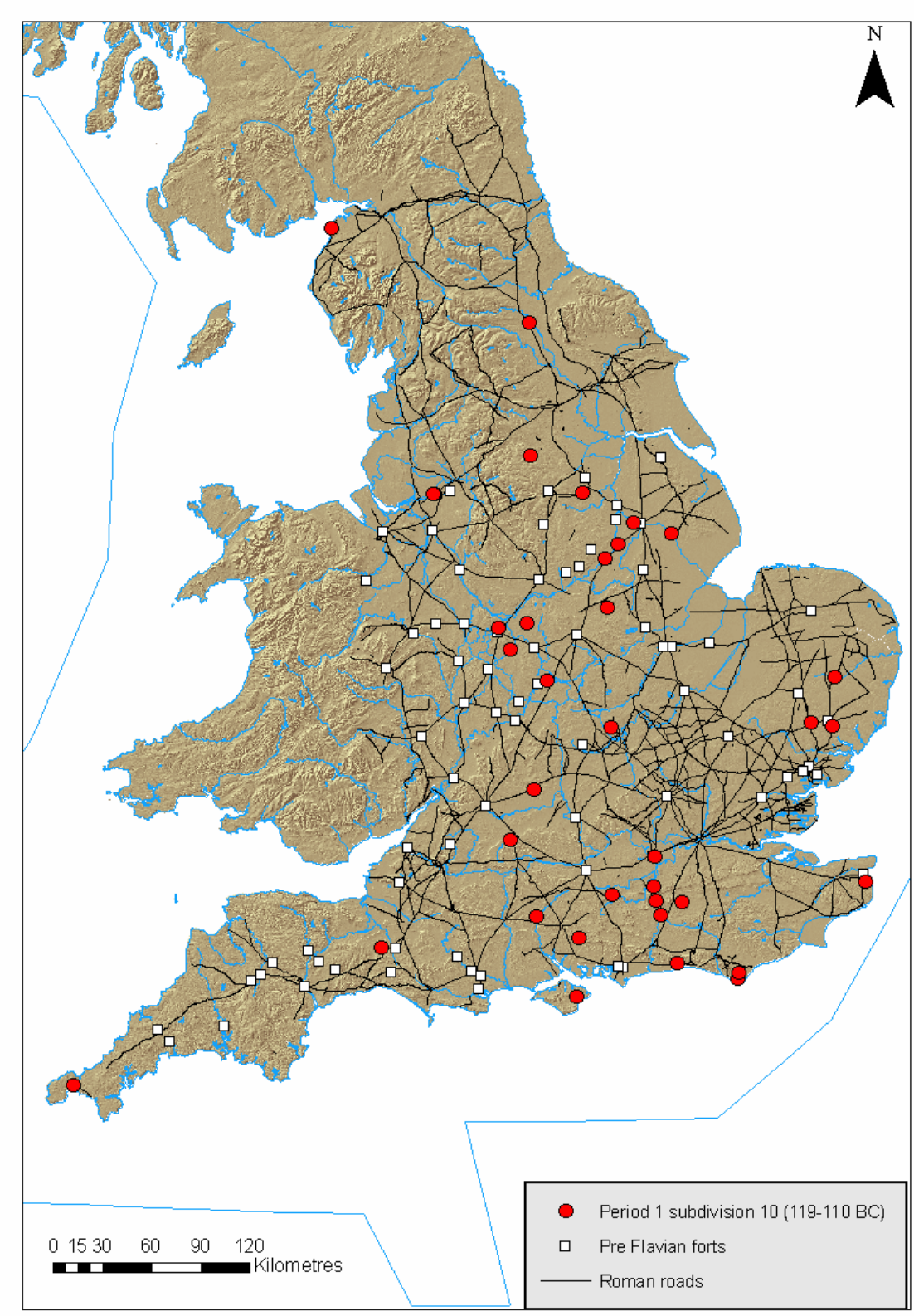


Figure 44: The distribution of Period 1, subdivision 10 issues

Secondly, the value for PAS subdivision 18 (39-30 BC) at 176.13 *per mill* is significantly higher than that of the equivalent hoard value at 136.43 *per mill.* This phenomenon is much easier to account for than the divergence in subdivision 10 values. 89% of subdivision 18 coins comprise *denarii* of Mark Antony. Such *denarii* remained in circulation until the third century AD as their lower silver content meant that they were neither recycled during coinage reforms, nor selected for hoarding in quantity.[24] This prolonged circulation inevitably provided greater opportunity for large numbers to be lost as site finds. The inverse appears to be true of subdivision 20 (AD 14-37) which exhibits a much higher *per mill* value in the hoard profile (175.26 *per mill*) than in the PAS Period 1 profile (122.15 *per mill*). It appears that Tiberian *denarii* were hoarded in quantity but did not remain in circulation for a long enough period to also be lost in quantity.

The PAS Period 1 profile has also been compared with a Continental hoard *per mill* profile, as illustrated in Figure 45. This profile has been created, using the details of three large hoards from Arbanats, Gironde (Lotringer 2002), Mont Souvance, Besançon (Grut 2002) and Meussia, Jura (Estiot and Aymar 2002) summarised in Table 18. All three hoards are pre-Claudian in date. Arbanats and Mont Souvance close with issues of Augustus whilst Meussia closes with an issue of Tiberius. Of course, observations made using the Continental hoard profile must remain tentative due to its small size and geographical distance from the PAS material. However, the similarity in values between Periods 1 and 10 is striking, whilst as far as Period 17, the proportions of the values in each dataset mirror each other. This similarity may suggest that at least some of the early issues recorded by the PAS (and particularly those from Period 10) were lost at the same time as the Continental hoards were deposited (i.e the early first century AD). This reinforces the notion that *denarii* were arriving in Britain prior to AD 43.

[24] See for example the third century Shapwick Hoard which included 260 issues of Mark Antony (Abdy and Minnitt 2002, 2053).

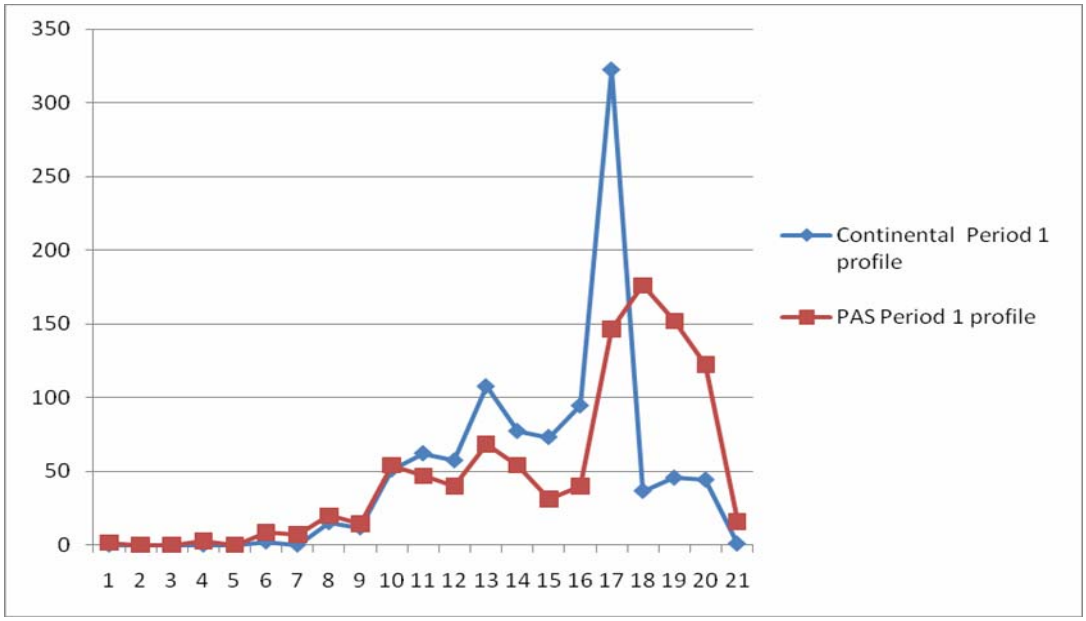


Figure 45: PAS Period 1 profile compared with Continental Period 1 profile

5.18 Comparing the Period 1 coin profile with hoards

A comparison of the PAS Period 1 profile with hoard profiles from Britain and the Continent has indicated that coins recorded by the PAS and those selected for deposition in hoards are largely representative of the same pool of coinage circulating between the Republican and Hadrianic period. However, it may be possible to narrow the date range for deposition by comparing the PAS Period 1 profile with Period 1 profiles calculated using coins included in hoards closing at similar dates. Therefore, the dataset of thirty British hoards has been divided into seven groups based on the date of the latest issue in each hoard and a *per mill* profile calculated for each group. These profiles have been plotted in three separate line graphs representing pre-Conquest Hoards (Figure 46), Claudian and Neronian hoards (Figure 47) and Flavian and Hadrianic hoards (Figure 48).

A comparison of these profiles illustrates that the very early and very late hoards (ie. those closing with pre-Claudian and Hadrianic issues) exhibit the greatest degree of dissimilarity with the PAS Period 1 profile, whereas those

dating to the Claudian, Neronian and Flavian periods possess more points of similiarity. Again, this reinforces the argument that most but not all Period 1 coins were deposited in the mid to late first century AD.

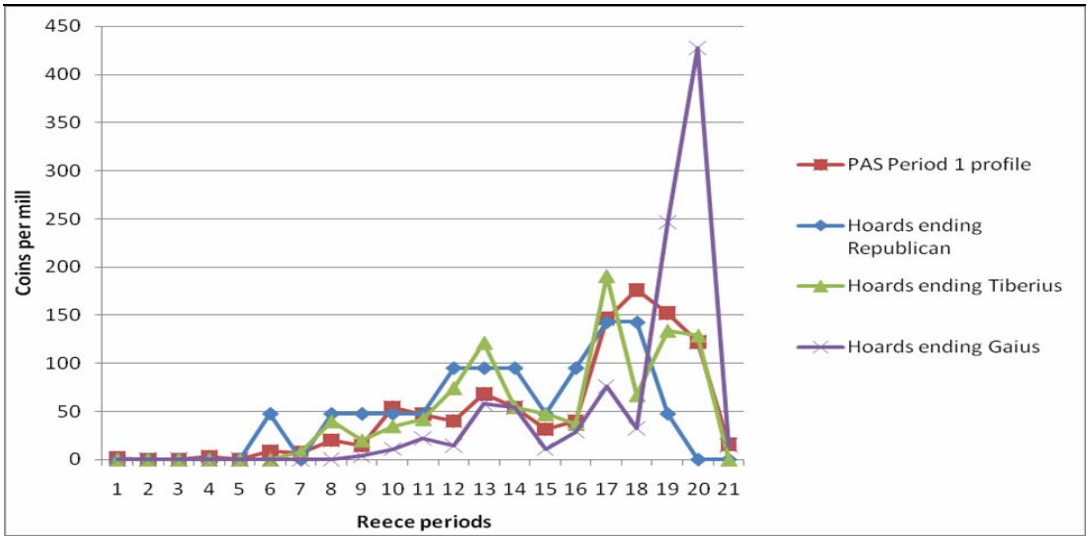


Figure 46: The Period 1 profile compared with Pre-Conquest hoards

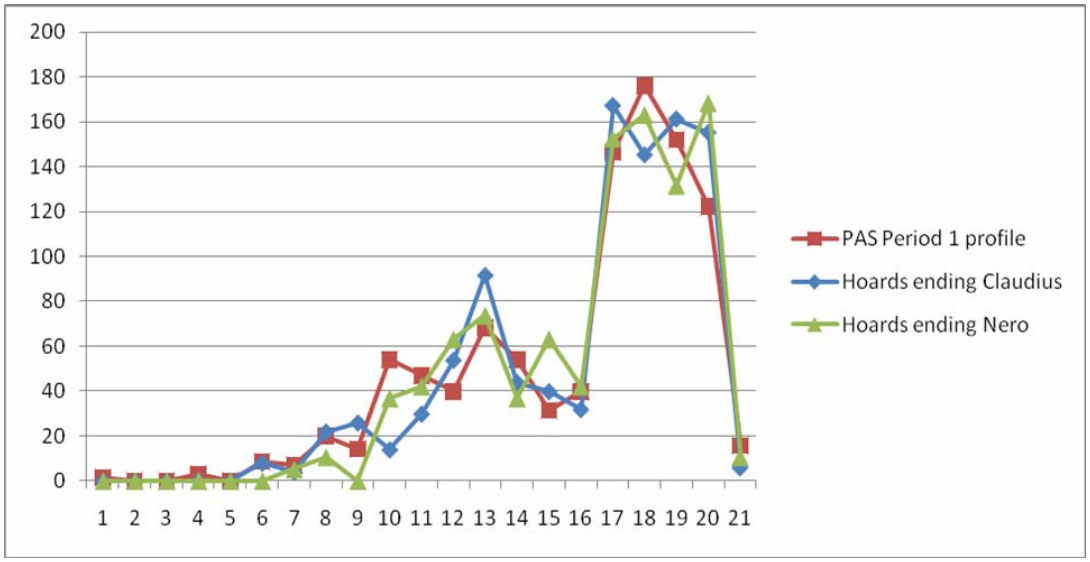


Figure 47: The Period 1 profile compared with Claudian and Neronian hoards

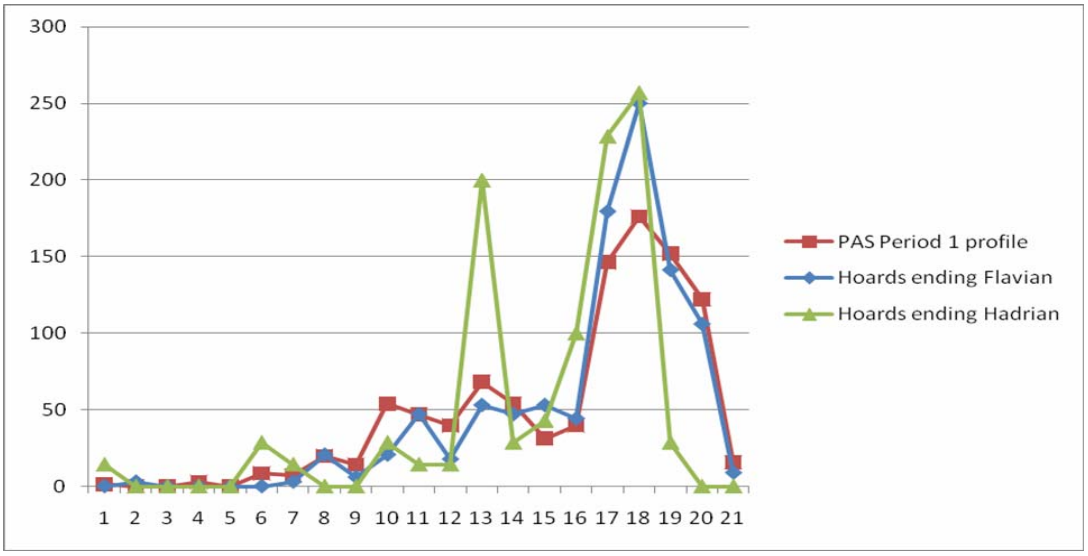


Figure 48: The Period 1 profiles compared with Flavian and Hadrianic hoards

5.19 Conclusion

This chapter has encountered the same problems of dating and interpretation that all archaeologists face in the study of the Late Iron Age to Roman transition. However, despite these problems, it has been possible to make a series of useful observations regarding the users and date of deposition of Period 1 (pre-AD 41) issues.

An analysis of the distribution pattern of all Period 1 coins has indicated a strong link with first century military activity and provided further points for discussion in the continuing debate on the geography of the Claudian invasion. The importance of stray losses as an indicator of transient military activity such as campaigning has been emphasised. Furthermore, above average Period 1 coin loss in some PAS parish profiles suggests sustained military activity within the territory of the *Atrebates* and potentially a new fort at Twycross, Leicestershire.

This link with the Roman army has also been emphasised by a survey of the function of comparative sites with above average Period 1 coin loss. Whilst

sites with a military function are dominant, it is also clear that Period 1 coin loss is not restricted to exclusively military contexts. Indeed, the presence of coins at native settlement and religious sites demonstrates that Iron Age communities acquired, used and deposited Period 1 coinage in some capacity. Whilst dating the precise moment of this acquisition has proved impossible, the PAS data supports other evidence suggesting that some pre-Claudian usage is certain.

The potential date of PAS Period 1 coin deposition is further refined by comparison with hoard evidence. The similarity between the *per mill* profiles for PAS Period 1 coin data and hoard data suggests deposition in the post Conquest period. However, the divergence of values in some subdivisions, particularly for the period 119 BC to 110 BC (subdivision 10), may indicate an earlier influx of coinage into Britain perhaps related to contemporary military activity on the Continent. This presents scope for further research of continental coin loss.

Chapter 6

An analysis of Claudian coinage (AD 41-54)

6 Introduction

This chapter uses the PAS and comparative coin dataset of Period 2 (AD 41-54) coinage to explore the theme of interaction between 'Roman' and 'native' during the Conquest and immediate post Conquest period. It will concentrate on addressing three inter-related research questions: where were Period 2 coins used, when were they used, and by whom? Analysis of both the geographical distribution of individual issues and of parishes and sites with concentrations of Period 2 coins will be combined with a survey of the function of comparative sites with above average proportions of Period 2 coinage. Lastly, geographical and functional analyses will be supplemented by an examination of the composition of hoards containing Claudian coins.

6.1 Previous study

Claudian *denarii* are extremely rare in Britain and numismatic study has therefore concentrated on the more prolific bronze coinage, particularly imitations of *dupondii* and *asses*. These imitations are numerous on first and second century sites and are found in far greater quantities than their official counterparts. Indeed, in some excavation assemblages, they account for more than 70% of all Period 2 issues recovered (Boon 1988, 121).

The main focus of research has fallen on the connection between Claudian copies and the army. As early as the nineteenth century, a link was made between the distribution of Claudian copies and the geography of the Roman invasion (Lysons 1817, 122ff). This link has been strengthened by the discovery of large quantities of Claudian copies at first century forts and fortresses, such as Richborough, Kent, Swanton Morley, Norfolk and Colchester, Essex. In addition to being the main users of Claudian copies, it has also been suggested that the army was responsible for their manufacture. It has been estimated that the army in Britain required 8,500,000 *asses* every four months to pay its soldiers (Boon 1988, 118); this requirement was very difficult to meet following the closure of the Lyons mint

and the cessation of production of bronze coinage in Rome at the end of AD 42 (Boon 1988, 119). Therefore, the production of copies could have made up at least part of the shortfall in official coinage in military *stipendia* and provided soldiers with the small change necessary to undertake lower value transactions (Kenyon 1987, 25; Sutherland 1935, 4). It has been suggested that the fort at Colchester acted as a potential mint due to the exceptional quantity of Claudian copies recovered there during excavations (Kenyon 1987, 24).

However, there has been some reluctance to concede that the army would either authorise or be responsible for the manufacture of imitation coinage. The punitive legislation against the counterfeiting of coin is cited and reinforced by the supposition that the procurator was always responsible for military pay and not the army units themselves (Boon 1988, 116). The crudeness of the execution of some copies, coupled with a 'lack of clustering of die-duplicates, such as would be expected to remain in the vicinity of local mints' are also used as arguments against military involvement (Boon 1988, 121). Instead, the local population are argued to have been responsible and styled as private profiteers, producing a crude imitation coinage which was only tolerated by the army until the new and vastly superior Neronian bronze coinage arrived in circulation (Boon 1988, 118). A variation of this argument sees the more accurate Claudian imitations as military and the more barbarous ones as local products (Sutherland 1935, 25ff).

There has been more agreement regarding the circulation life of Claudian copies. Their presence in stratified contexts from both the fortress at Colchester and Usk indicates that imitations were minted and used throughout the Claudian period (Boon 1988, 121). Beyond AD 54, their circulation is thought to have been short-lived with the new Neronian bronze coinage seen as rendering them effectively redundant by the early 70s AD

(Boon 1988, 123; Guest 2008g, 43; Kenyon 1987, 26; Kenyon 1991, 378; Sutherland 1935, 23). The alleged paucity of Claudian bronze coinage amongst site assemblages from Flavian forts in Wales and in northern Britain is employed as evidence of this action (Boon 1988, 123; Kenyon 1987, 26).

There has been some speculation about the possibility of limited later circulation amongst the civilian, rather than the military community, but this idea has not been lent much weight (Boon 1988, 123; Guest 2008g, 43; Sutherland 1935, 28). Whilst Claudian coins are recognised in second century archaeological contexts, they tend to be dismissed as residual (Boon 1988, 123-4). This is despite stratigraphic analyses which suggests that Claudian copies may have 'circulated, probably in high numbers throughout the second half of the first century even when supplies of official bronze coinage to Britain and Gaul were renewed in the years following AD 64' (Hammerson 1978, 590) and perhaps even as late as the Trajanic period (Hammerson 1978, 591). Similarly Claudian coins which appear in second and third century *aes* hoards are interpreted as evidence of the curation of individual issues with a 'sentimental or talisman-like value' (Kenyon 1987, 26) rather than of continued circulation.

The flaw in the majority of interpretations of the origin, function and users of Claudian coinage is their reliance on nineteenth and twentieth century colonial viewpoints rather than objective examination of the evidence (Mattingly 2006, 13). Hence, the production of Claudian copies is described as a 'flood' (Sutherland 1935, 4) or an 'epidemic' (Boon 1988, 121) and their crude execution evidence of native workmanship in 'less civilised centres' (Sutherland 1935, 25). In contrast, the Roman army is cast as a law-abiding guardian of the aesthetic ideal exemplified by their 'beautiful' coinage, but forced in difficult circumstances to tolerate something below that ideal (Boon 1988, 123).

A thorough reassessment of all the available evidence is therefore timely. Unfortunately, the most comprehensive study of Period 2 coinage undertaken in the late 1980s, remains unpublished. (Kenyon, 1991). This work suggests a more nuanced and inclusive interpretation of their distribution and users by means of a thorough examination of the evidence and the application of theoretical models. By combining Kenyon's data with PAS and comparative coin evidence, it may be possible to arrive at a better understanding of coin use and loss in the Conquest period and beyond.

6.2 The datasets

The PAS dataset used in this chapter comprises a total of 237 Period 2 coins from 140 parishes downloaded in March 2008. Of those 237 coins, 181 are part of parish assemblages with twenty or more coins. The remaining 56 coins can be classified as 'stray' losses.[25] Their distribution is illustrated by Figure 49a. The *dupondius* and *as* are the dominant denominations recorded although *sestertii* and *denarii* are also represented in small numbers. Whilst the majority of *sestertii* and *dupondii* appear to be regular issues, the *asses* are almost certainly all imitations. Unfortunately, Finds Liaison Officers have not always recorded whether the coins are contemporary copies, or uploaded accompanying photographs so that this cannot be verified after recording. The total number of each denomination within the dataset is presented in Table 19 and their distribution illustrated by Figure 49b.

The PAS data is supplemented by three further sources of information. The first is the comparative dataset which includes details for 2,602 Period 2 coins from 164 sites. This dataset is intended to both reinforce and complement the PAS material but is somewhat limited in its usefulness as

[25] The percentage of Period 2 stray losses is far smaller than its equivalent for Period 1. Does this indicate something about the chronology of coin loss, the differences in volumes of coin supply or the way in which different denominations were used? In Period 1, the majority of issues are *denarii* whilst in Period 2, they are bronze issues.

denominational information was not recorded. The second source comprises the dataset of Claudian bronze coins from 327 sites collected by Kenyon for his doctoral thesis (Kenyon 1991). Kenyon's data tables were transcribed and grid references added so that the sites could be plotted using a GIS. The third source comprises a variety of hoard data and includes a collection of 13 hoards from Britain that end with Period 2 issues and a further dataset of 33 hoards from Britain which contain Period 2 issues. Hoard data have been collected from a variety of sources including Robertson's *Inventory of Romano-British hoards* (Robertson 2000) as well as Treasure reports compiled by the Department of Coins and Medals at the British Museum. Summaries of hoards used in this chapter are provided in Table 20 and Table 21.

6.3 The distribution of all PAS Period 2 issues

In this section, analysis of the geographical distribution of the Period 2 dataset is undertaken. Patterns of 'stray' losses and individual denominations are examined and the distribution of parish and site assemblages with Period 2 coins explored to determine the potential date and reasons behind their deposition.

Figure 49a illustrates the distribution of the 237 Period 2 issues recorded by the PAS. In marked contrast to the Period 1 distribution of *denarii* discussed in Chapter 5, Claudian issues are almost entirely restricted to an area south and east of the Fosse Way. Even within this area, there is significant variation in the quantities of coins recorded. Particularly high concentrations can be identified in Norfolk, Hampshire and Leicestershire and following the line of the Rivers Parrett and Axe in Somerset. The Sussex Weald, Cambridgeshire, Northamptonshire, Devon and Cornwall are, however, almost devoid of coin finds.

In terms of identifying a military aspect to their geographical distribution, Period 2 coin finds are recorded along major supply routes such as the Fosse Way, Ermine Street and Dere Street, as well as within the hinterland of sites with military associations such as Colchester, Essex, Chichester, Sussex and Winteringham, North Lincolnshire. The observation that Claudian coin loss tends to occur 'at identified and suspected military sites...and few are found far from Roman roads or pre-Roman routes linking these sites' appears to be at least partially correct (Kenyon 1991, 189). However, smaller groups and 'stray' coin losses have been recorded away from known military sites and road networks, particularly in Hampshire and Suffolk. This demonstrates that Period 2 coinage did not necessarily enjoy an exclusively military distribution. Instead, it suggests that the native population in certain areas of southern Britain had access to and used Period 2 bronze coinage.

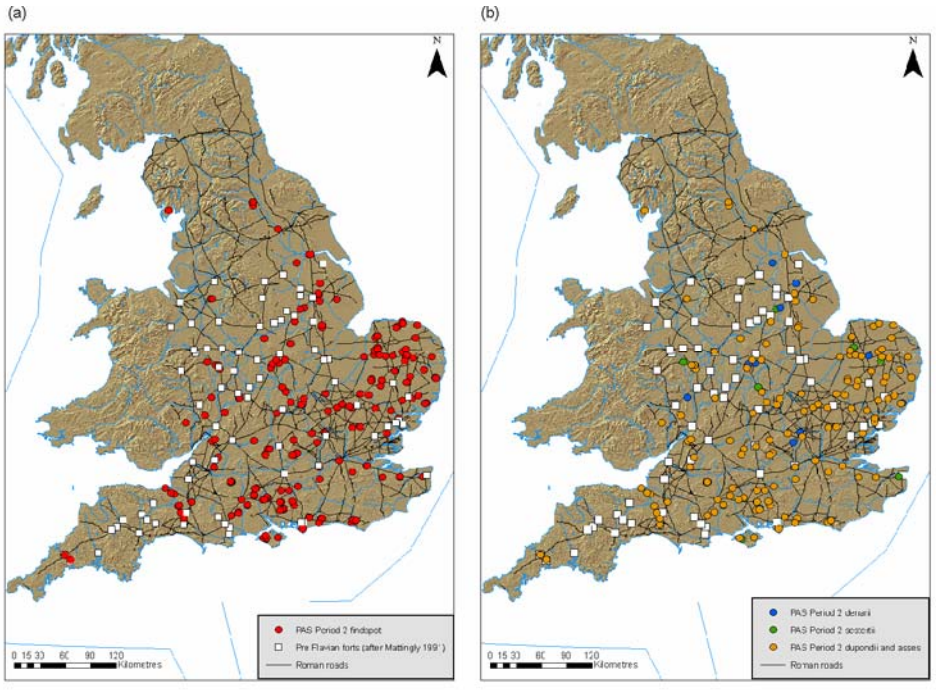


Figure 49: (a) The distribution of Period 2 issues by findspot and (b) by denomination

6.4 The distribution of PAS Period 2 denominations

Figure 49b illustrates the distribution of the PAS dataset by denomination. As noted above, the *dupondius* and *as* are the dominant denominations and only small quantities of *denarii* and *sestertii* have been recorded. Whilst this renders interpretation of their spatial distribution difficult, some tentative observations can be made.

The PAS dataset of Period 2 coins includes a total of 12 *denarii*. Whilst this total is small, particularly in comparison with the Period 1 dataset of *denarii*, it accords well with the picture presented by Romano-British hoards of the first and second centuries AD where Claudian *denarii* are also rare (Orna-Ornstein 1997, 26). Their scarcity is argued to be the result of the debasement of the *denarius* in the reign of Nero. At this time, a large proportion of earlier coins with a higher silver content were either hoarded or removed from circulation. Consequently, Claudian *denarii* recorded by the PAS are likely to have been lost either during or soon after the period AD 41 to 54. Indeed, the lack of wear on all but one of the *denarii* (HAMP-2ED465) recorded suggests a short circulation life. There is therefore nothing unusual in their distribution which appears to correlate with areas associated with military campaigning in the first century AD. Indeed, more than half of the *denarii* recorded are found along the route of the Fosse Way, which may have acted as the 'front-line' during the mid first century AD. More unusual however is the fact that the majority of PAS *denarii* recorded are stray finds rather than part of parish assemblages. Where they do form part of assemblages, they tend to be the only Period 2 coins present.[26] In this respect, they behave like Republican *denarii* which are also predominantly found as stray finds. This may demonstrate that *denarii* were used and lost in specific ways and in specific contexts in the early Roman period.[27]

[26] Only assemblages from Colchester, Essex (ESS0022) and Sutton, Suffolk (SUF0200) also possess Period 2 issues in other denominations.

[27] Richard Reece has commented that despite the number of excavation assemblages he has recorded, he has only ever recorded one Claudian *denarius* from an archaeological site (Reece *pers comm*.)

A total of seven *sestertii* have been recorded by the PAS. Again, due to their scarcity, interpretation is difficult. However, both Kenyon and Reece have argued that the presence of a Claudian *sestertius* in an assemblage indicates a military function for the site from which it came (Kenyon 1991; Reece *pers. comm*.). It is therefore significant that three *sestertii* have been recorded from the parish of Winteringham, North Lincolnshire which is argued throughout this thesis to be the location of an unidentified pre-Flavian fort. Furthermore, a single *sestertius* has been recorded from the parish of Calbourne on the Isle of Wight (IOW-0D4331) which exhibits evidence of extensive first century activity but as yet no military association.[28]

Dupondii and *asses* form the core of the PAS dataset of Period 2 coinage accounting for 218 coins. Again, their distribution is concentrated south and east of the Fosse Way and they are scarce in northern Britain. This pattern further reinforces the argument proposed in Chapter 4 that different native responses to coinage existed in southern and northern Britain. In areas with a history of coin use in the Late Iron Age such as Kent, Sussex, Hampshire and East Anglia, the local population may have embraced the concept of the tri-metallic currency relatively quickly. However, in the north, whilst the native population may have selected and retained silver *denarii* for their intrinsic value, bronze coinage was rejected. These regional differences have tremendous implications for our understanding of the function of money throughout the province.

[28] In 2010, two further groups of Claudian *sestertii* have been recorded in Devon and Dorset by the PAS which are likely to be associated with unidentified pre Flavian military installations. DEV-C91AC6 and DEV-C907C1 were recorded to the east of Plymouth, Devon and were accompanied by other first century bronze issues. DOR-1B7136 and DOR-1B15D0 were recorded from the parish of Owermoigne, Dorset. The latter group is accompanied by Republican and Tiberian *denarii*, six Claudian *dupondii* as well as several early Roman brooch types.

6.5 The distribution of parish profiles and sites with Period 2 coinage

Figure 50a illustrates the distribution of the 140 PAS parish profiles, 164 comparative sites and 327 findspots of Period 2 coins recorded by Kenyon (Kenyon 1991). This figure represents the most comprehensive picture of Claudian coin loss in Britain available and demonstrates that the PAS dataset is in many respects an accurate reflection of Period 2 coin distributions. The emphasis on coin loss south and east of the Fosse Way, particularly along the routes of both major and minor Roman roads remains. However the comparative material does possess a far more widespread distribution pattern than its PAS counterpart with the findspots at Flavian and Hadrianic military installations throughout northern Britain and in Devon and Cornwall representing notable additions.

Figure 50b illustrates the location of parishes and sites with above average *per mill* values for Period 2 (>=10 *per mill*). The findspots recorded by Kenyon have been omitted from this distribution map as full details of coin assemblages were not included in his thesis (Kenyon 1991). The overall distribution pattern is much the same as that presented in Figure 50a although some significant patterning is reinforced. Indeed, a correlation between pre-Flavian military activity and above average coin loss appears to be confirmed. The military installations at Colchester, Chichester, Gloucester, Exeter and Wroxeter and Lincoln[29] all possess multiple assemblages with above average Period 2 coin loss, whilst clusters of sites and parishes are recorded in the 'Midland Triangle' and in the vicinity of the legionary fortress at Lincoln. Furthermore, Flavian and Hadrianic forts in northern Britain do not possess significant assemblages. Of particular interest, however, are two quite separate clusters of sites and parishes. The first comprises a linear distribution of PAS parishes following the course of the Rivers Parrett and Axe in south west Somerset. These rivers may have

[29] London also exhibits a profile with above average Period 2 coin loss, despite the absence of an early fort. It would be worthwhile exploring why this is so.

acted as a riverine access and supply route during first century campaigning and appear almost to represent a boundary beyond which Period 2 coin loss is unusual. The second comprises a cluster of parishes and sites in Norfolk corresponding to the territory of the *Iceni*. These could relate to the movements of the Roman army in the build up and aftermath of the Boudiccan revolt although relating coin clusters to such a specific historical event is fraught with difficulties.

There are some clusters of parishes and sites with above average Period 2 coin loss which do not possess an obvious military association. These include a spread across inland Hampshire and into Wiltshire relating to the territory of the *Atrebates*. This distribution pattern was also noted for Period 1 coinage in Chapter 5 where it was suggested that it might relate to trade and diplomatic contacts rather than military intervention. In this regard, it is therefore perhaps significant that most of the key concentrations of Period 2 bronze coinage occur within the territories of Iron Age tribes with a history of pre-Roman coin use, such as the *Cantiaci*, the *Trinovantes*, the *Iceni* and the *Atrebates*. Kenyon suggested that this was an indication of the immediate post-Conquest usage of Roman coinage in 'areas where a degree of urbanisation was already achieved' (Kenyon 1991, 376). However, as Roman coinage could circulate for prolonged periods of time, distributions could be a reflection of first or early second century activity, rather than specifically Claudian events.

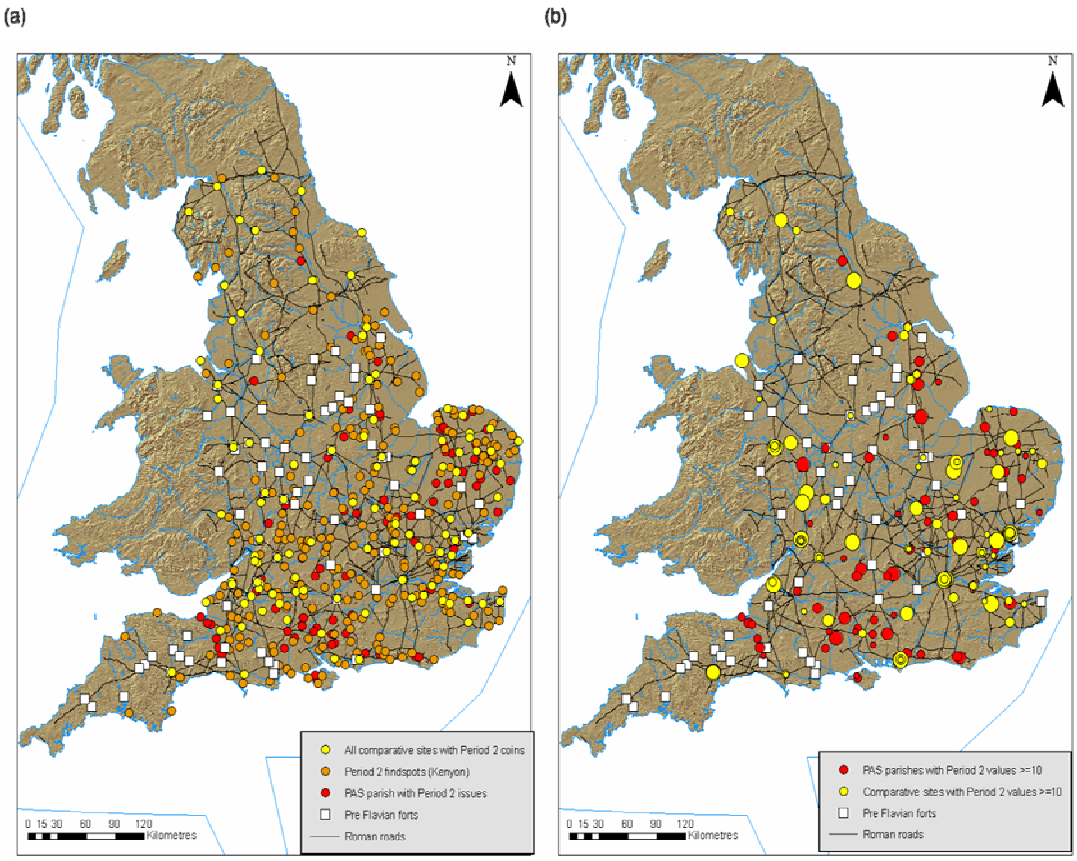


Figure 50: (a) The distribution of Kenyon's data, PAS parishes and comparative sites with Period 2 issues and (b) those with above average Period 2 coin loss.

6.6 The function of comparative sites with Period 2 coin loss

This conclusion is also supported by a more detailed examination of the function of comparative sites with Period 2 coins. Indeed, a survey of the primary function of comparative sites with above average Period 2 coin loss (>=10 *per mill*) again demonstrates that whilst there is obviously a connection between Period 2 issues and the army, they are not restricted to military environments. Figure 51 details the results of this survey as a histogram. From a total of 96 sites, only 12 (13%) have an explicitly military function, although in saying this, 42 (46%) are classified as urban centres, some of which may have begun life in the post Conquest period as forts or

fortresses.[30]. However, 26 sites (27%) are unclassified rural sites, whilst villas and temples are also represented by smaller percentage values. This indicates that Period 2 coinage was acquired and lost by a variety of users, both military and civilian, Roman and native.

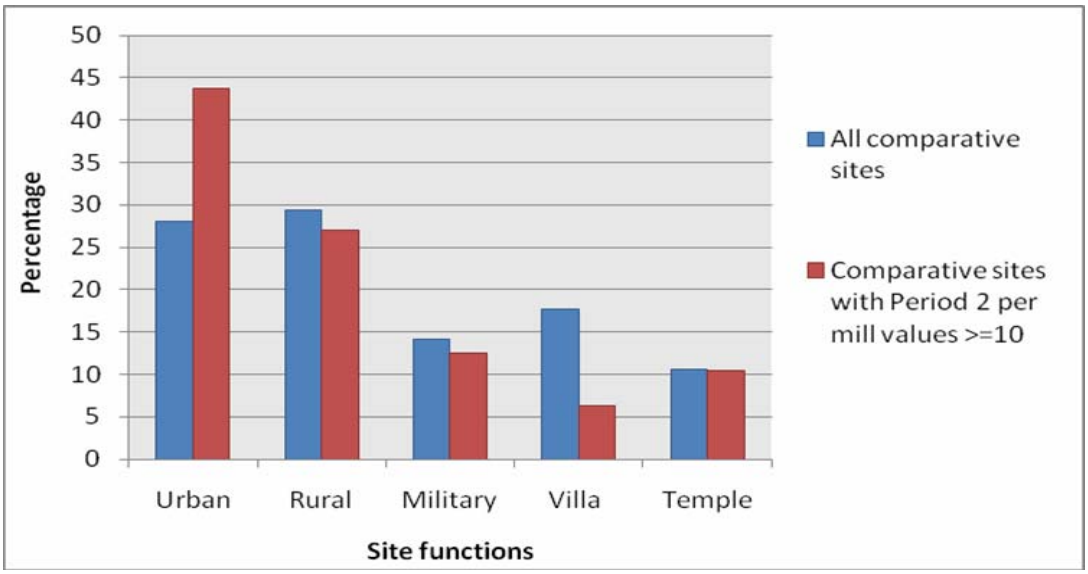


Figure 51: The function of comparative sites with above average coin loss

6.7 The circulation life of Period 2 coinage

Whilst it is possible to establish that Claudian coinage was used by a variety of groups both Roman and native, the long circulation life of some Roman coins means that it is far harder to be certain of the chronology of this usage. However, there is a notion that Period 2 bronze coinage circulated for a relatively short-lived amount of time. It is argued that by the mid 60s AD it had been discarded or melted down to be replaced by new Neronian issues and was certainly not in widespread circulation after AD 70. However, despite the repetition of this view in numerous academic studies, it seems to be based more on the prejudiced idea that the Roman army would not use 'barbarous copies' any longer than they needed to rather than on any interpretation of the evidence.

[30] For a discussion of the complexities of early Roman urbanisation, see Millett 1990, 65ff.

The potential longevity of circulation of Period 2 can be explored in two ways. First, the extent to which Claudian coins are found at sites that are not Claudian in origin can be examined. If Period 2 coinage occurs in any quantity at these sites, it would imply a circulation date in keeping with the known chronology of the site. Claudian coins are found in numerous site assemblages that post date Period 2. For example, coins are found at most Flavian forts in both northern Britain and Wales and along the route of Roman roads such as Dere Street which is unlikely to have been completed until the Flavian period. These coins do not often account for a large proportion of any overall site assemblage but their very presence suggests continued circulation for at least fifteen years after they were struck (Guest 2008g, 43). Furthermore, stratigraphic analysis of the contexts in which Claudian copies were found at Southwark, in London, may also point to a more prolonged circulation. There it is argued that the juxtaposition of Claudian coins with other objects indicated circulation 'probably in consistently high numbers throughout the second half of the first century even when supplies of official bronze coinage to Britain and Gaul were renewed in the years following AD 64' (Hammerson 1978, 590). However, recently, there has been some suggestion that these coins come from disturbed layers and are in fact residual (Reece *pers. comm.*).

Even if doubt is cast on the evidence from Southwark, Period 2 coins were certainly circulating in some capacity as late as the middle of the second century. Indeed, at Coventina's Well, Northumberland, 18 Claudian copies and two Claudian *sestertii* were placed in a functional cistern as part of a votive deposit some time after AD 128 (Allason-Jones and McKay 1985, 12). It is possible that coin assemblages from votive deposits are subject to unusual selection processes and that therefore they may not be totally representative of coinage in circulation. However, the quantity of Claudian issues in the assemblage suggests that they were neither stray survivals nor

individually curated issues. In fact, their presence strongly indicates the continued circulation of Claudian bronze coins in northern Britain.

Second, the extent to which Claudian coins are found in hoards ending in issues of later emperors can be investigated. If it is assumed that hoards reflect a selection of coinage in use at the time of deposition, the presence of Claudian coins in later hoards would imply their continued circulation. Indeed, an examination of the date range of 28 hoards containing Period 2 coins, as summarised in Table 21 suggests that they circulated (although in decreasing numbers) into the second century AD. Period 2 coins appear in Flavian hoards regularly whilst single examples continue to be present in hoards up until the reign of Antoninus Pius. However, the occurrence of a Claudian *sestertius* in a hoard dating to the reign of Commodus from Great Chesterford, Essex (Robertson 2000, 68) should not be viewed as evidence of extensive late second century circulation. It is much more likely to represent the deliberate selection of a curated coin for deposition, particularly as Claudian *sestertii* were rarities even in the first century AD.

6.8 The geographical distribution of hoards

A study of the distribution of hoards ending in or containing Period 2 coins may also provide supplementary information about their circulation throughout the first and early second centuries AD. Furthermore, some indication about the potential users of Period 2 coins may be given, depending on the function of the site where each hoard was located.

Figure 52: (a) Hoards terminating in Period 2 issues and (b) hoards including Period 2 issues.

A dataset of 13 hoards terminating with issues of Claudius has therefore been collected and is summarised in Table 20. Whilst the small size of the dataset precludes anything but tentative analysis, it is clear that these hoards share in the broad distribution pattern of Period 2 site finds. They are restricted to the 'Midland Triangle', East Anglia and the zone to the south of the Fosse Way as Figure 52a illustrates. This establishes a connection between the geography of pre-Flavian campaigning and hoarding. This connection is further strengthened by the physical locations in which the majority of hoards were found. Eight were recovered from or close to military installations, whilst a further three hoards were located on major Roman roads.

A dataset of 32 hoards containing Claudian coins has also been collected and this is summarised in Table 21. Their geographical distribution, as illustrated in Figure 52b echoes that of Period 2 site finds with the emphasis being on the area to the south of the Fosse Way, with a few hoards at military installations and along roadways in northern Britain. An analysis of the function of sites where these hoards were recovered illustrates the move from military to native contexts over time. Indeed, whilst hoards deposited during the Claudian period are almost exclusively found at military sites in southern Britain, of those deposited within the Neronian and Flavian period just under half originate from within or in the vicinity of forts. This total diminishes further for the period spanning the reigns of Nerva to Hadrian, with only one hoard, that from Wroxeter, coming from an explicitly military context. This trend is also emphasised by an examination of the distribution of hoards with Claudian coins deposited in the reign of Antoninus Pius and later. Again hoards are found distributed throughout the landscape and are not only associated with military installations.

6.9 Conclusions

This chapter has analysed the distribution of Period 2 coinage to address where, when and by whom it was used. It has demonstrated that there is a correlation between Period 2 coinage and the geography of the Roman Conquest and subsequent campaigning. However, it has stressed that whilst the army may have been the dominant users, Period 2 coinage was not restricted to military contexts. Indeed, their widespread distribution south of the Fosse Way and their appearance at a full range of comparative site types point to their acquisition, circulation and loss amongst the native population in areas with a familiarity with tri-metallic currency.

It has been more difficult to assess when Period 2 coins were first acquired by the native population. Previous research has emphasised the short-lived circulation life of Claudian coinage by referencing its paucity in Flavian

military contexts in Britain and Wales. Hence, by implication, Period 2 coinage is assumed to have been acquired by the native population within a relatively short time frame following the Roman Conquest. However, this chapter has demonstrated that this need not necessarily be the case. Indeed, using a combination of hoard and site find evidence, it has illustrated that Period 2 coinage continued to circulate throughout the late first century and into the second.

Chapter 7

An analysis of Carausian and Allectan coinage (AD 286-296)

7 Introduction

This short chapter investigates the distribution of coinage issued by the two usurper emperors Carausius and Allectus in the period AD 286 to 296. In particular, it uses the distribution of coins with different mintmarks to assess locations suggested for the 'C' mint, whilst also briefly assessing how coin evidence might better illuminate this poorly documented period.

7.1 The dataset

The dataset used in this study comprises 1,006 Carausian coins (1,004 radiates and 2 *aurei*) and 571 coins of Allectus (all radiates) recorded by the PAS. Unfortunately, the acquisition of an extensive national comparative dataset containing details of emperors and mintmarks was outside the scope of the current study. Therefore, despite its limited scope and selective nature, a list of 11 'major sites' with a combined total of 1,643 Carausian coins (Williams 2004, 42) has been employed to act as a comparative source. Table 23 summarises the total number of coins from each site by mint. This has been supplemented with details of 43 hoards ending in issues of Carausius and 38 hoards ending in issues of Allectus collected from a variety of sources (Abdy and Leins 2005; Bland 1982; Robertson 2000; Williams 2004). The details of these hoards are provided in Table 24, Table 25 and Table 26.

7.2 The distribution of Carausian coins

The distribution of all Carausian coins recorded by the PAS is illustrated in Figure 53a. Although in many respects their overall distribution appears to reflect the 'normal' pattern of coin loss for the province throughout the Roman period, it does expand significantly upon the distribution pattern of Carausian coinage known from major sites recorded by Williams (Williams 2004) as illustrated by Figure 53b. Alongside significant concentrations of material in Lincolnshire, Hampshire and East Anglia, stray PAS finds indicate the circulation of Carausian coinage in central Britain for the first

time. The dearth of Carausian issues along the Hadrianic frontier and in Cornwall is also highlighted. The connection between the military and coinage is clear in other periods and therefore this absence may be a reflection of the strategic concerns of the Carausian regime – a concentration on bolstering the fleet and sea defences of Britain coupled with neglect of the northern frontier. Indeed, archaeological evidence from military installations along Hadrian's Wall demonstrates that they were 'physically run down and had under-strength garrisons' (Casey 1994a, 33) in contrast to the 'Saxon Shore forts' in the late third century AD.

The distribution of hoards ending with issues of Carausius (summarised in Table 24) has also been compared with that of PAS findspots in Figure 53c. Whilst in general, they exhibit similar distribution patterns, there is a single striking point of difference. Despite the density of coin loss in East Anglia, there are apparently no Carausian hoards recorded for the region. This phenomenon deserves further investigation and should be compared with hoarding in the area in other periods.

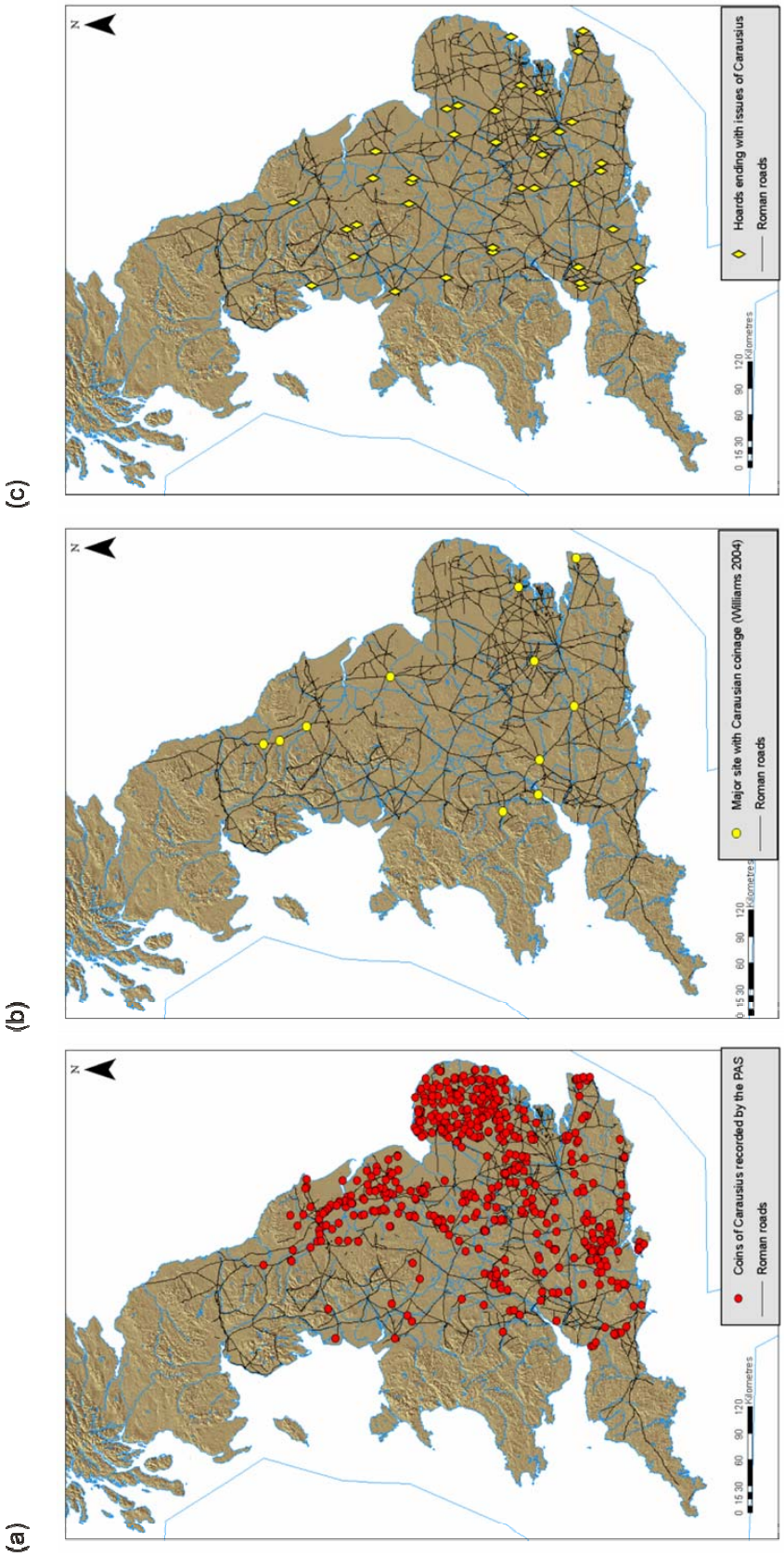


Figure 53: The distribution of (a) all Carausian coins recorded by the PAS and (b) comparative sites with Carausian coins (Williams 2004) and (c) hoards ending with issues of Carausius.

7.3 The distribution of Carausian coins by mint

Whilst the national distribution pattern of Carausian coins indicates the extent of their circulation, it is the distribution of Carausian coins by mint which has traditionally been of most interest to scholars. Although it has been established that the exergual marks 'L' and 'C' on issues refer to the products of more than one mint (Besly 2006, 62), the location of the 'C' mint has been a subject of much debate. The 'C' has been argued variously to refer to Camulodunum (Colchester), Calleva Atrebatum (Silchester), Clausentum (Bitterne) and even Glevum (Gloucester) if the 'C' is read as a 'G'. On the basis of distributional evidence, Colchester has been favoured despite its proximity to London (Casey 1994a, 84) although alternative readings including '*Colonia*' and '*Classiensis*' have also been offered (Bailey 1981; Casey 1994a, 84; Davies and Crummy 1987, 50; Williams 2004, 43-44).

All Carausian coins recorded by the PAS have been plotted by individual mintmark as Figure 54 illustrates. In most areas, issues from all mints are represented. However, some patterning in the material is apparent. Unmarked products exhibit the widest distribution and are the only products found in north western Britain. They are also dominant in central Britain. London mint products are also widely distributed with clusters of coins recorded in Hampshire and East Anglia. Notably, they are not concentrated within the vicinity of London. Rouen mint products are scarce. With the exception of a single issue, they are restricted to southern Britain as has been observed by other scholars (Casey 1994a, 75; Williams 2004, 44). 'C' mint issues cluster in three areas: Lincolnshire, East Anglia and along the south coast. Very few PAS issues are recorded from Gloucestershire, in contrast to a previous study which noted a concentration in this area (Lloyd 1999, 3ff). Nor is there an obvious concentration in the vicinity of Colchester and hence the argument for a mint here could be substantially weakened. Although the proximity of the majority of 'C' mint issues to coastal areas and

the lack of issues from central Britain might initially seem to resurrect the argument for 'C' being representative of 'Classiensis' – 'of the fleet' (Bailey 1981; Casey 1994a, 84; Williams 2004, 44), the distribution of Allectan 'C' mint issues discussed below appears to preclude this. It seems that the theory that coins from a particular mint will circulate close to their source of issue is erroneous, when applied to late third century *radiates*. Instead, it appears that either coins were minted in one place and then distributed in another or that the longevity of their circulation blurs any link between their distribution pattern and mint of origin.[31]

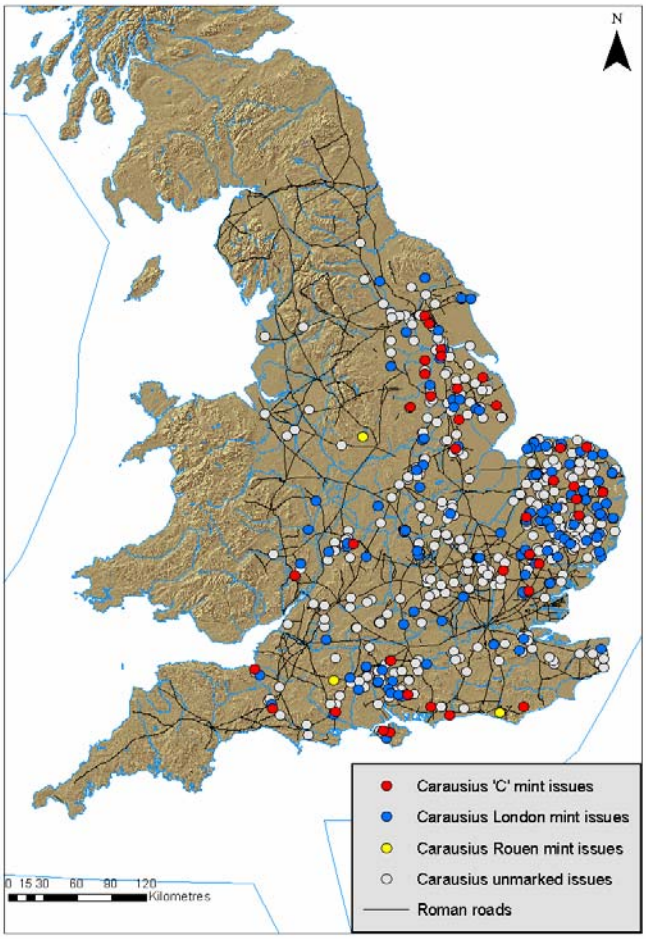


Figure 54: The distribution of Carausian coins by mint

[31] The similarity in the coins found in *radiate* hoards of different sizes, terminal dates and locations also suggests that the coinage of the period circulated and became well mixed in a very short space of time (Reece and Guest 2002, 197).

7.4 Proportions of coinage from each Carausian mint

Table 22 presents the percentage of coins by mint recorded by the PAS, at comparative sites and in hoards, whilst Table 23 summarises coin totals by mint from 11 comparative sites with Carausian coins recorded by Williams (Williams 2004). The similarity in the ratios of coins recorded from London, Rouen and 'C' mint in each dataset appears to confirm the validity of the PAS dataset. It also indicates the dominance of the London mint. However, there is a marked difference in the number of unattributed issues recovered as site finds when compared with hoards. Whilst 77.5% of Carausian site finds are unattributed products, they account for only 37.3% of hoard assemblages. This may partially represent a difficulty on the part of Finds Liaison Officers in assigning Carausian coins to their respective mints but is also likely to represent the rejection of counterfeit coins when selecting coins for hoarding.

Figure 55a and b illustrate the percentage of coins from London and 'C' mint respectively from site assemblages and in hoards. The larger the symbol the greater the percentage number of coins. There appears to be no patterning in the proportions of coinage from each mint represented in particular areas of the country. Indeed, sites and hoards within the vicinity of London do not possess higher percentage values of London mint coins than those located at some distance from the city. Furthermore, the percentage of 'C' mint products at different sites remains remarkably similar throughout the country. This reinforces the hypothesis expounded here that mint location cannot be identified through the analysis of the distribution of issues from a particular mint.

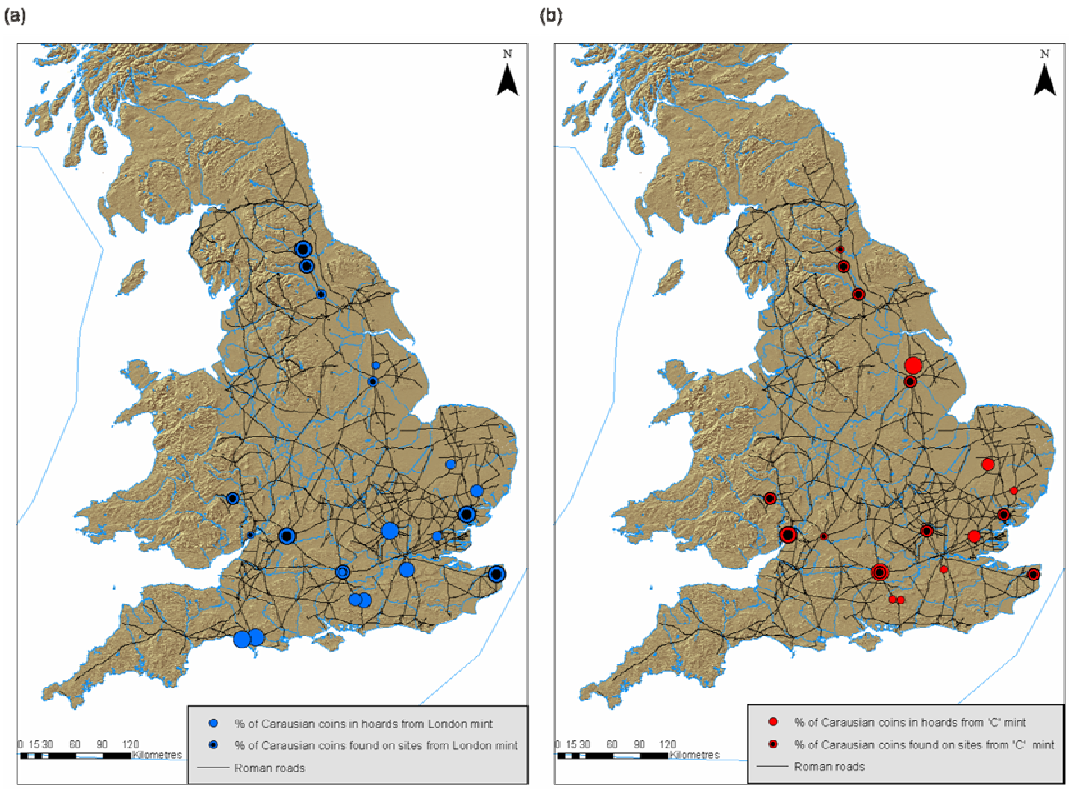


Figure 55: The proportion of (a) London mint issues at sites and in hoards and (b) 'C' mint issues at sites and in hoards

7.5 The distribution of Allectan coinage

The distribution pattern of Allectan coinage recorded by the PAS is similar to that presented by the Carausian material, with concentrations again apparent in East Anglia and Hampshire as Figure 56 illustrates. However, no coins are recorded in the north west and there appears to be a process of contraction away from this area This contraction in coin use is also reflected in distribution of hoards ending in issues of Allectus, the details of which are summarised in Table 26. With the exception of one hoard (Hipperholme, Yorkshire: Robertson 2000, 232), all are located in southern and eastern Britain. It is therefore seems likely that the PAS material accurately represents the ancient circulation pattern of Allectan coinage and the increased concentration of administrative and military resources in south eastern Britain during his reign.

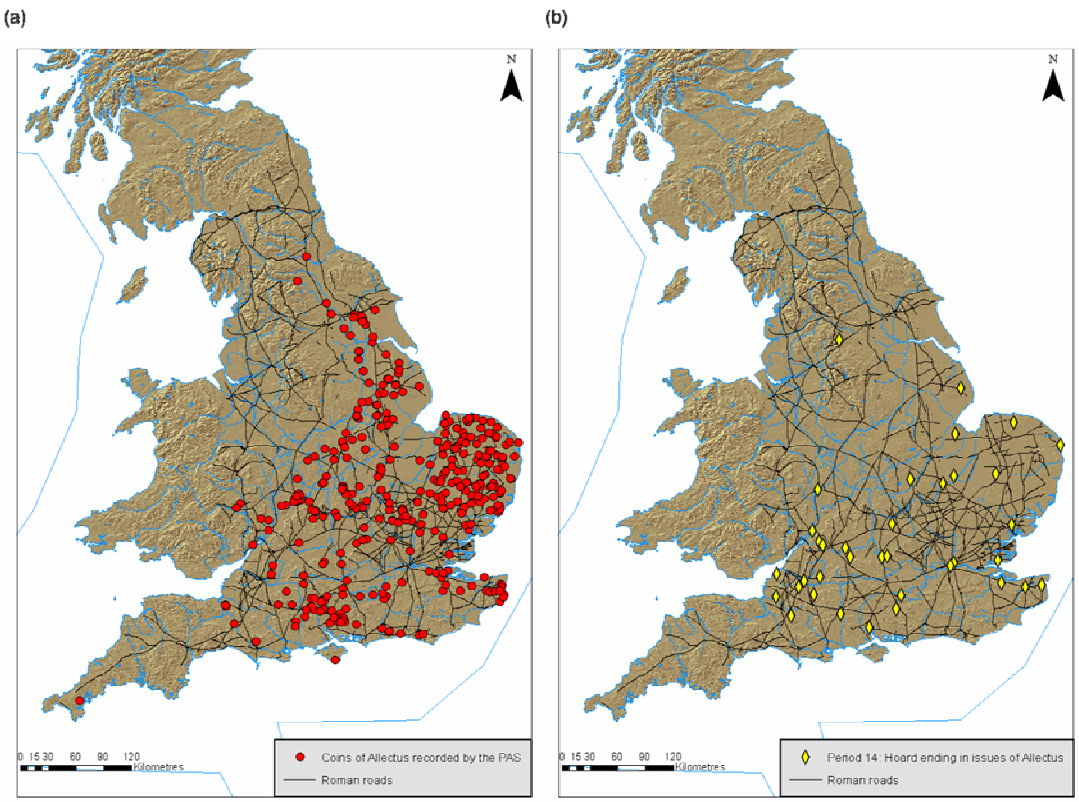


Figure 56: The distribution of (a) coins of Allectus recorded by the PAS and (b) hoards ending in issues of Allectus

When the PAS dataset of Allectan coinage is plotted by mint in Figure 57, it is also possible to make some interesting observations. The distribution of coins from different mints is far more mixed than for Carausian coins. Indeed, issues from all mints are represented in all areas where Allectan coins are recorded and there is no visible clustering of either London mint or 'C' mint products. Again, this contrasts with the observations of earlier research which observed a clustering of material in Gloucestershire and the West Country (Lloyd 1999, 4). Instead, it reinforces the conclusion reached above that the distribution of coins from individual mints cannot be used as an accurate means of locating the source of issue for late third century issues.

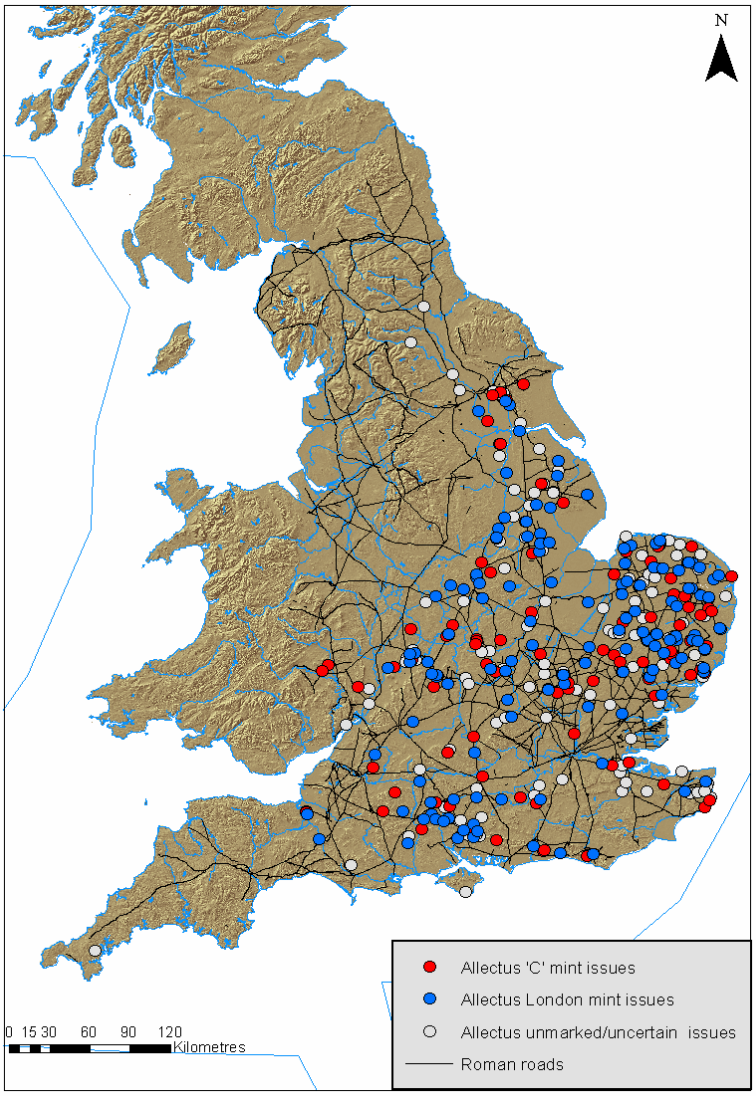


Figure 57: The distribution of Allectan coins by mint

7.6 Conclusions and recommendations for further study

This short chapter has debated the location of 'C' mint – an issue which has generated much discussion amongst numismatists in recent years. Analysis has shown that there is a fundamental flaw in using the distribution of mint products to locate mints in the reigns of Carausius and Allectus. Coins appear to have been distributed at a distance from the mints which issued them or circulated quickly and widely throughout the province. Study has however highlighted a slight contraction of coin use away from north

western Britain in the Allectan period and this should be studied in more detail. However, until a thorough catalogue of Carausian and Allectan coinage found in Britain is compiled, the incomplete nature of the dataset precludes any more than tentative comments being offered.

Chapter 8

An analysis of Period 17 to 21 coin loss (AD 330-402)

8 Introduction

This chapter will analyse the changing distribution of coins in Britain between the mid fourth century and the early fifth century AD (Period 17 to 21). It aims to address two related research questions. First, to what extent do patterns of coin loss contribute to the debate on late Roman decline? Second, what is the geographical distribution of coinage in the early fifth century AD and for how long does it continue to circulate? This will be approached using a variety of methods. The geographical distribution of all coins assigned to Reece periods 17 to 21 will be examined and the function of sites with above average coin loss in each period assessed. In addition, the results of the Cluster Analysis will be used. An exploration of the denominational composition of the assemblage will be attempted, comparing the distribution of clipped and unclipped *siliquae* with *nummi*. A small portion of the research presented in this chapter forms part of an article on late Roman silver coins from Britain (Bland, Moorhead and Walton forthcoming).

8.1 Previous study

Numismatic evidence has played a prominent role in constructing a narrative for late Roman Britain. Early studies used the diminishing coin supply to Britain to chart the decline of the province in the late fourth century and argued that this decline was the result of the economic failure of towns (Frere 1987, 363; Rivet 1964, 97). More recent research has used coinage not only to trace this decline, but also to explore wider themes concerning the end of Roman governance. On the one hand, the lack of new coinage after AD 402, coupled with a failure to produce copies, is used as evidence for the end of coin circulation in Britain by AD 420 (Esmonde-Cleary 1989, 141) and the concomitant collapse of the diocesan administrative and taxation system (Esmonde Cleary 1989, 139-140; Mattingly 2006, 530; Millett 1990, 227; Reece 1988a, 151; Salway 1997, 351-352). The increased incidence of hoarding in the Honorian period, particularly in eastern Britain is

presented as a reflection of instability in the area in the wake of Germanic incursions and 'the massive failure of elite groups...to retrieve their stored wealth' (Mattingly 2006, 538).

However, the discovery of the Patching Hoard which includes Continental coins of the AD 460s in conjunction with both clipped and unclipped *siliquae*, along with the widespread distribution of clipped *siliquae* as site finds has forced a reassessment of coin use in the fifth century AD. Whilst some scholars still consider that clipping represents the breakdown of financial controls (Laycock 2008, 156; Mattingly 2006, 530ff), there is growing consensus that the practice was an official or semi-official attempt to maintain the circulation of silver currency until the middle of the fifth century (Abdy 2006, 85; Dark 2000, 55; Guest 2005, 114; Hendy 1985, 318).

8.2 The datasets

The primary PAS dataset used in this chapter comprises a total of 21,987 coins dating to Periods 17 to 21 downloaded from the PAS database in March 2008. Of this total, 20,214 belong to parish assemblages of twenty or more issues whilst the remainder may be classified as stray finds. This dataset forms the basis of the numerical and statistical analyses in this chapter including the Cluster Analysis and is summarised in Table 27. However, where analyses of the distribution and treatment of *siliquae* is undertaken, a more up-to-date dataset, downloaded in March 2009, is employed. This dataset comprises a total of 687 *siliquae* and eight *milarenses* and was checked by Sam Moorhead and Roger Bland. In particular, they assessed the descriptions of *siliquae* as 'clipped' or 'unclipped' for accuracy. As not all records possessed accompanying photographs, only those coins listed as 'certainly or probably clipped' were included in analysis; those described as 'possibly clipped' have been excluded.

The PAS dataset is supplemented by two further sources of information. First, there is the comparative dataset comprising a total of 118,518 Period 17 to 21 coins. This dataset is intended to both reinforce and complement the distribution patterns presented by the PAS material. However, it is important to note that the collection method for the comparative dataset is not strictly comparable with that of the PAS. It is unfortunate that the collection of denominational information was outside the scope of this thesis making analysis of the relationship between *siliquae* and *nummi* in the comparative dataset impossible. The total number of coins assigned to each period in each dataset is summarised in Table 27.

As hoard evidence has been so vital to scholarly argument regarding the circulation of coinage in the fifth century, a dataset of 106 hoards ending with coins of Honorius or later emperors has also been collected. These include 6 hoards of *solidi*, 68 of *siliquae* (some of which also include *solidi* or *nummi*) and 32 *nummus* hoards. Hoard data have been collected from a variety of resources including Robertson's *Inventory of Romano-British hoards* (Robertson 2000) as well as Treasure reports compiled by the Department of Coins and Medals at the British Museum. A summary of hoards used is provided in Table 33.

8.3 The distribution of Period 17 to 21 issues

In this section, analysis of the geographical distribution of coins dating to the mid to late fourth century is undertaken. The distribution of all findspots by Reece period, the patterns exhibited by both PAS parishes and comparative sites with coins dating to each period and those with above average coin loss (ie. *per mill* values which are twice the PAS Mean) are all studied.

8.3.1 Period 17 issues (AD 330-348)

Figure 58a illustrates the distribution of Period 17 coinage (AD 330-348) recorded by the PAS and from comparative sites. Coin loss is at its most

prolific in Roman Britain during this period with 12,399 coins recorded by the PAS and 59,784 from comparative sites. Period 17 coins are very rarely found as stray finds with 86% of those recorded by the PAS coming from parish profiles. Indeed, they are very much a feature of Romano-British sites in general with 94% (345 out of 367) of comparative sites having Period 17 issues.

However not only are Period 17 issues numerous, they are also widespread in their distribution. Findspots, parishes and sites are found ranging across the province from the Hadrianic frontier to the northern coast of Cornwall as both Figure 58a and b illustrate. In most respects, the PAS and comparative datasets are complementary in their patterning. However, the comparative dataset has a far greater density of site assemblages in the West Country due probably in part to the intensive study in the region by Moorhead (Moorhead 2001a and b) whilst the PAS dataset indicates a far greater degree of coin loss in Lincolnshire, East Yorkshire and East Anglia than previously recorded. For example, only four coin assemblages from East Anglia were published in Reece's *140 sites* (Reece 1991b) and their scarcity was interpreted as a reflection of low levels of ancient coin loss. However, this thesis uses the details of 18,741 individual findspots and 241 parish and site assemblages from the region.

Figure 58c illustrates the distribution of PAS parishes and sites with Period 17 *per* mill values which are twice that of the PASM. Due to the high *per mill* value calculated for Period 17, only 21 parishes and sites exhibit a Period 17 value that is twice the mean. This makes interpretation of their distribution difficult. However, it is interesting to note that nearly all parishes and sites are restricted to the area south and east of the Fosse Way, despite the presence of individual findspots in northern Britain.

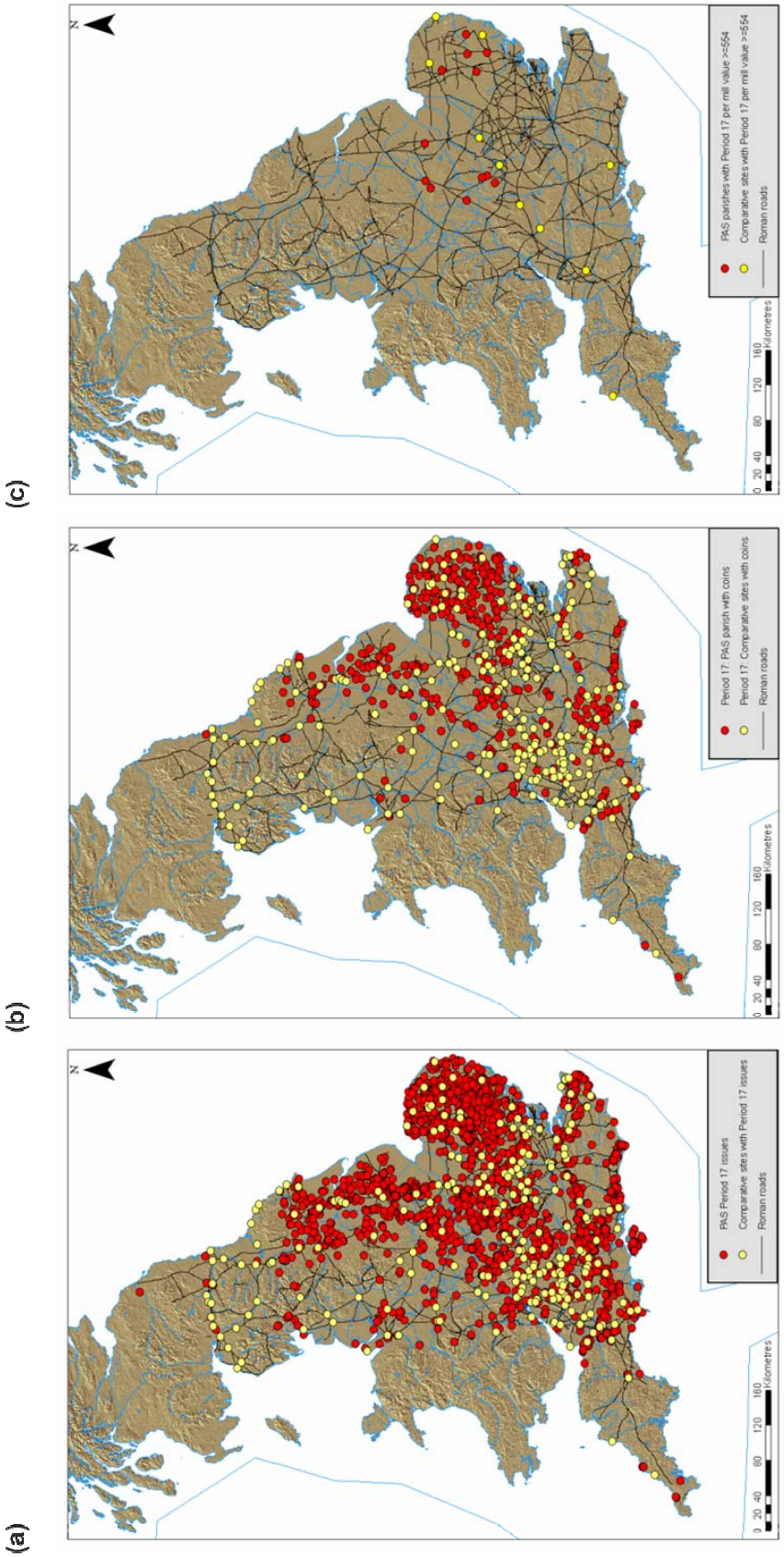


Figure 58: (a) All Period 17 findspots; (b) all PAS parishes and comparative sites with Period 17 coins and (c) PAS parishes and sites with above average Period 17 coin loss

8.3.2 Period 18 issues (AD 348-364)

As Figure 59a and b illustrate, Period 18 (AD 348-364) exhibits a very similar distribution pattern to that recorded for Period 17, despite the fact the actual quantity of coins recorded is much smaller and the number of sites and parishes decreases. The density of coin loss is at its greatest in southern and eastern Britain with coins recorded throughout the landscape. However, despite the emphasis on coin loss south of the Fosse Way, significant numbers of issues are also recorded in North Lincolnshire and East Yorkshire. In northern Britain, coins cluster in the vicinity of the major routes such as Dere Street and at sites along Hadrian's Wall whilst in the north west, fewer coins are recorded, particularly by the PAS.

Figure 59c illustrates the distribution of PAS parishes and comparative sites with above average Period 18 coin loss. Again the majority of parishes and sites are located to the south east of the Fosse Way, although there is also a significant cluster of PAS parishes in North Lincolnshire and three outlying comparative sites and one parish in northern Britain.

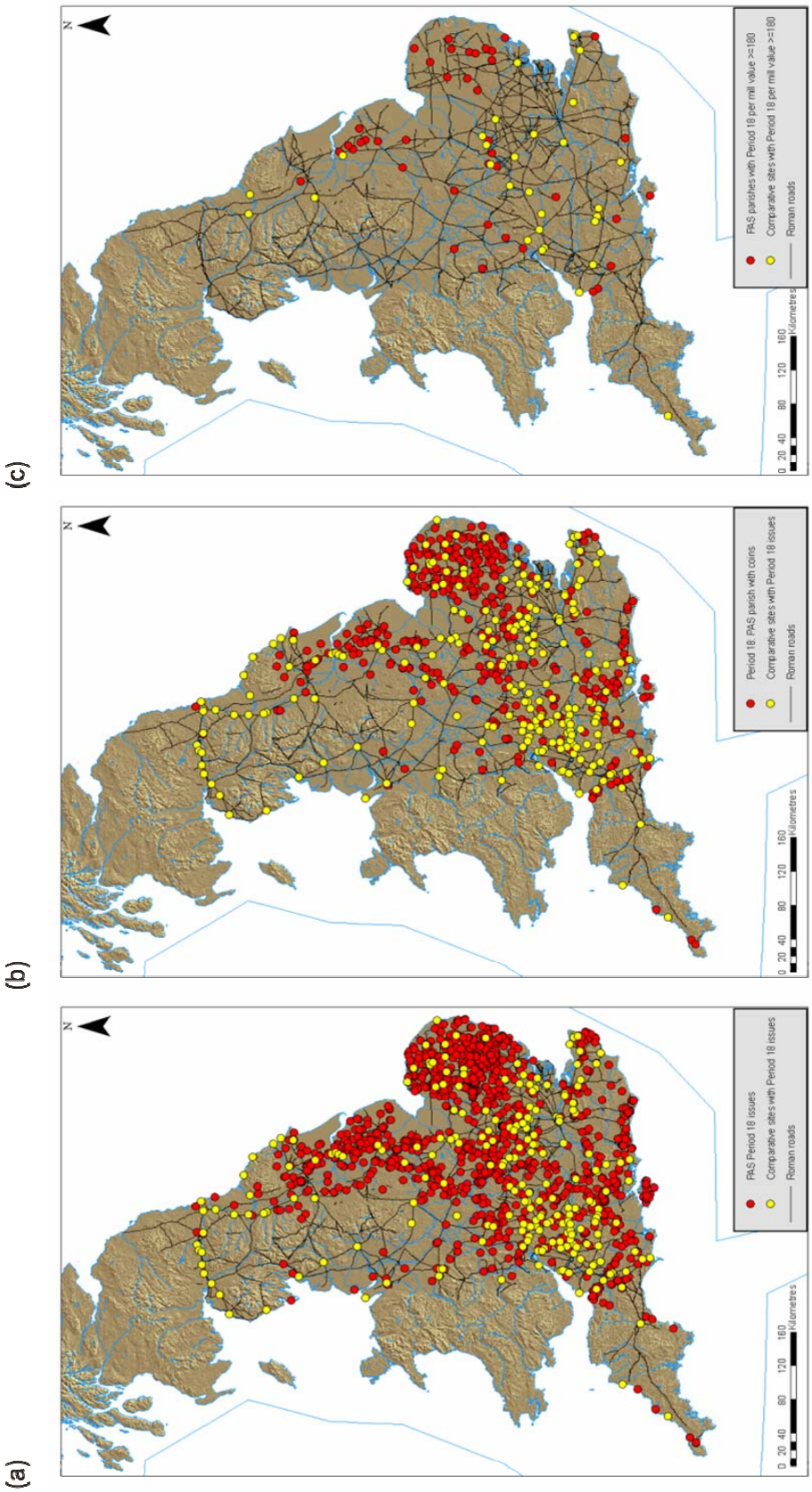


Figure 59: (a) Period 18 findspots; (b) PAS parishes and comparative sites with Period 18 issues; (c) and PAS parishes and comparative sites with above average Period 18 coin loss

8.3.3 Period 19 issues (AD 364-378)

The pattern of Period 19 (AD 364-378) findspots, parishes and sites illustrated by Figure 60a and b is very similar to those illustrated for Period 17 and 18. Again, southern and eastern Britain exhibit the most prolific coin loss whilst in the north, findspots are associated predominantly with coastal or frontier zone military installations and Roman roads. The distribution of parishes and sites with above average coin loss in Period 19 is also in keeping with that seen in earlier periods as Figure 60c demonstrates. Most assemblages fall within an arc across Britain from Wiltshire through to East Yorkshire. However, unlike in earlier periods, there is a significant concentration of parishes and sites in the West Country and as far south as Hampshire. This corresponds with a pattern identified by both Ryan (Ryan 1998) and Moorhead (Moorhead 2001a)

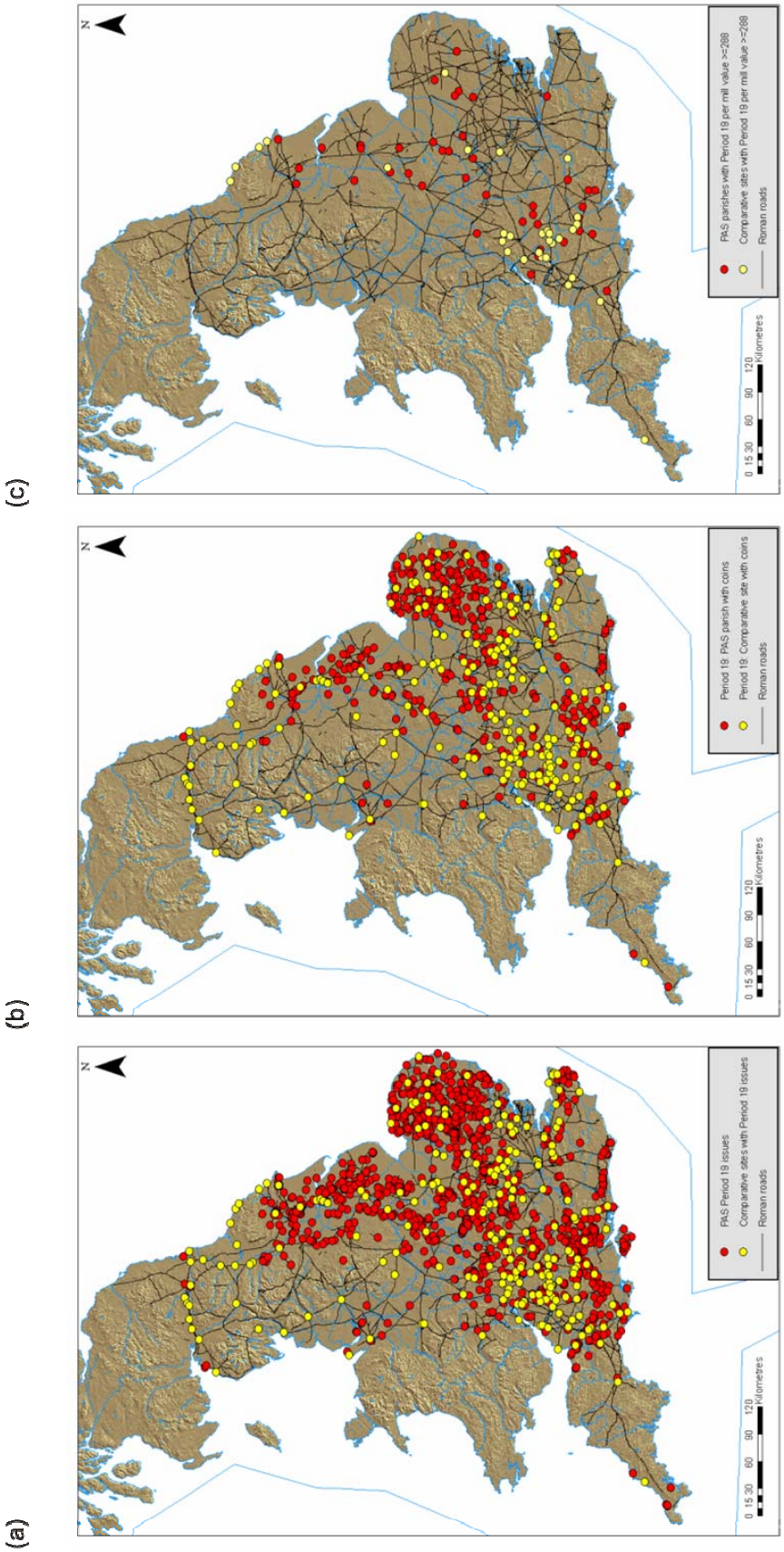


Figure 60: (a) Period 19 findspots; (b) PAS parishes and comparative sites with Period 19 issues; (c) and PAS parishes and comparative sites with above average Period 19 coin loss

8.3.4 Period 20 issues (AD 378-388)

It is with Period 20 issues (AD 378-388), that significant changes in the distribution pattern can be seen as Figure 61a and b illustrate. The quantity of Period 20 coins (AD 378-388) recorded in both datasets decreases dramatically as does the number of parishes and sites at which it is found. Whilst the density of coinage in southern and eastern Britain is still high (particularly in the West Country and East Anglia), the majority are found along major Roman roads and at nodal points such as cross-roads. Few coins are recorded in the north and they are restricted to a few sites along the Hadrianic frontier, coastal military watch-towers or in the hinterland of Dere Street. Contraction away from the south eastern coast of Sussex and northern Kent can also be observed for the first time. These patterns are reinforced in the distribution of sites and parishes with above average Period 20 coin loss as illustrated by Figure 61c.

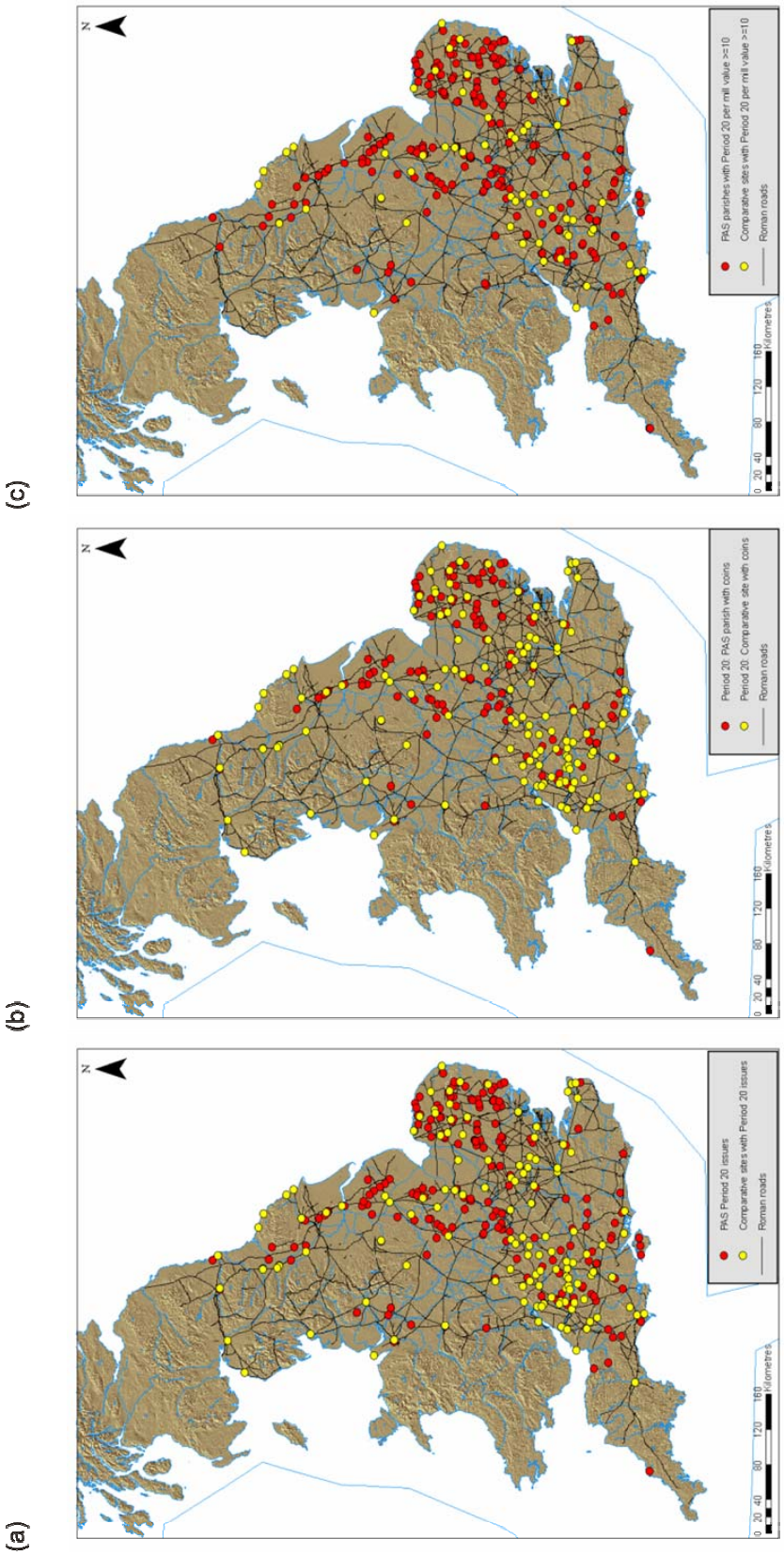


Figure 61: (a) The distribution of Period 20 findspots; (b) PAS parishes and comparative sites with Period 20 issues; (c) and parishes and comparative sites with above average Period 20 coin loss

8.3.5 Period 21 issues (AD 388-402)

The geographical contraction in the distribution pattern of Period 20 issues is consolidated in Period 21 (AD 388-402). Indeed, although the number of coins increases slightly in the PAS dataset to 609 coins recorded and massively to 29,073 in the comparative dataset, due to the inclusion of the Richborough assemblage, the distribution of findspots, sites and parishes is very similar to that seen for Period 20. As demonstrated by Figure 62a and b, the densest coin loss is in southern and eastern Britain although some issues are recorded along Dere Street and within military installations on Hadrian's Wall. Of particular note is the continued above average coin loss recorded for the coastal watchtowers in East Yorkshire, suggesting a strong link between military activity and coin loss in the late Roman period.

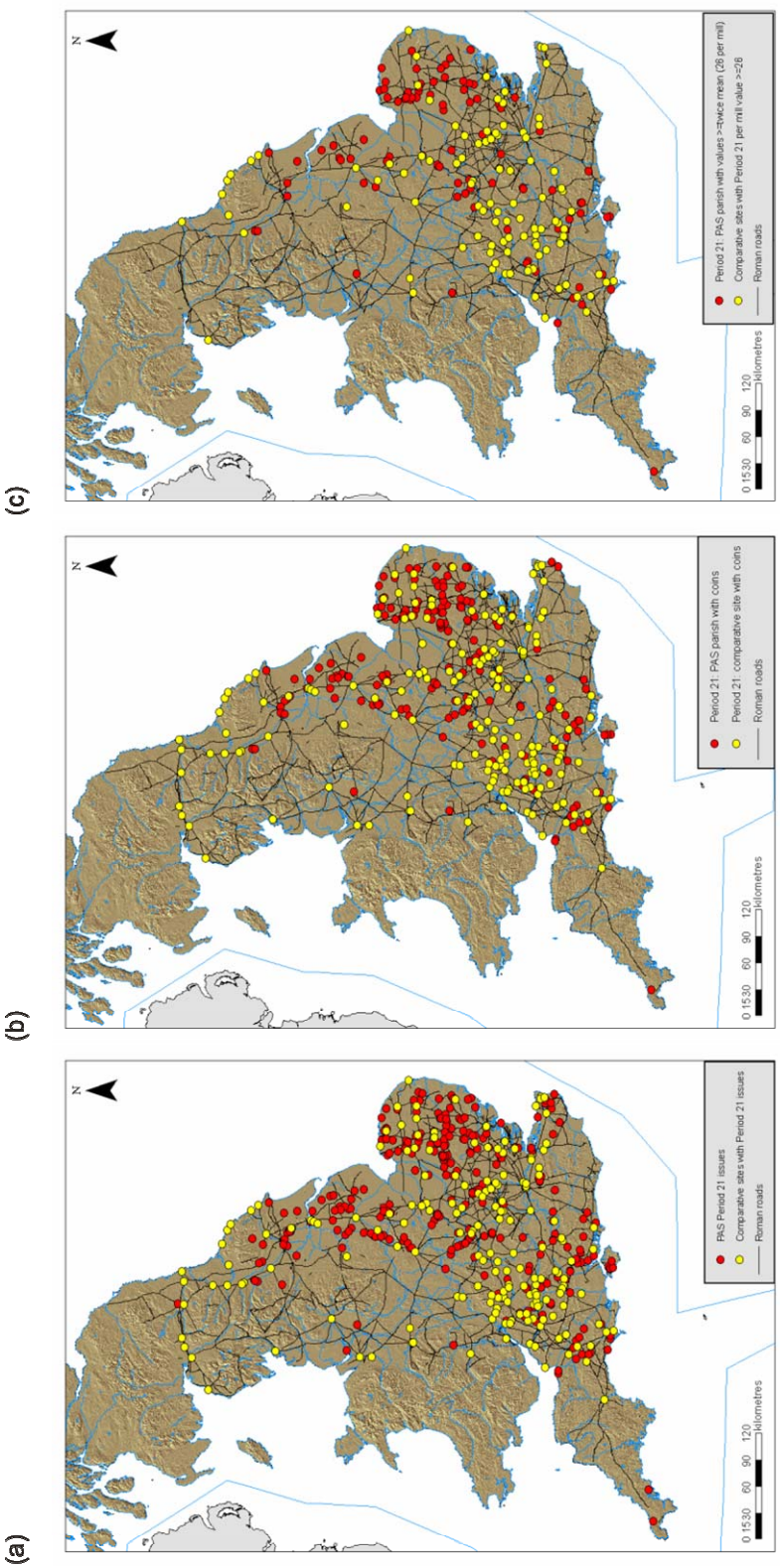


Figure 62: (a) The distribution of Period 21 findspots; (b) PAS parishes and comparative sites with Period 21 issues; (c) and PAS parishes and comparative sites with above average Period 21 coin loss

8.4 The function of comparative sites with above average coin loss

Any interpretation of the coinage distribution patterns described above remains difficult without some degree of context. To an extent this can be provided by an examination of the functions of comparative sites with above average coin loss in each Reece period. Figure 63 illustrates the percentage of each site type represented between AD 330 and AD 402 (Period 17 to 21) and Table 28 summarises the calculations made.

Between Periods 17 and 19 (AD 330-378), unclassified rural and villa site types dominate, accounting for between 70% and 75% of all sites recorded and indeed in Period 19, no urban sites feature at all. This accords well with the apparent shift away from established urban forms in the fourth century AD and a growth in small towns and villages (Faulkner 2000, 126 and 132; Mattingly 2006, 334). However, in Period 20 (AD 378-388), at the same time as the geographical contraction in coinage distribution patterns becomes evident, the percentage of urban sites recorded increases. This increase continues into Period 21 (AD 388-402), where urban sites account for 36% of all sites recorded. There is an obvious shift away from coin loss at unclassified rural and villa sites and a movement of emphasis to urban centres.

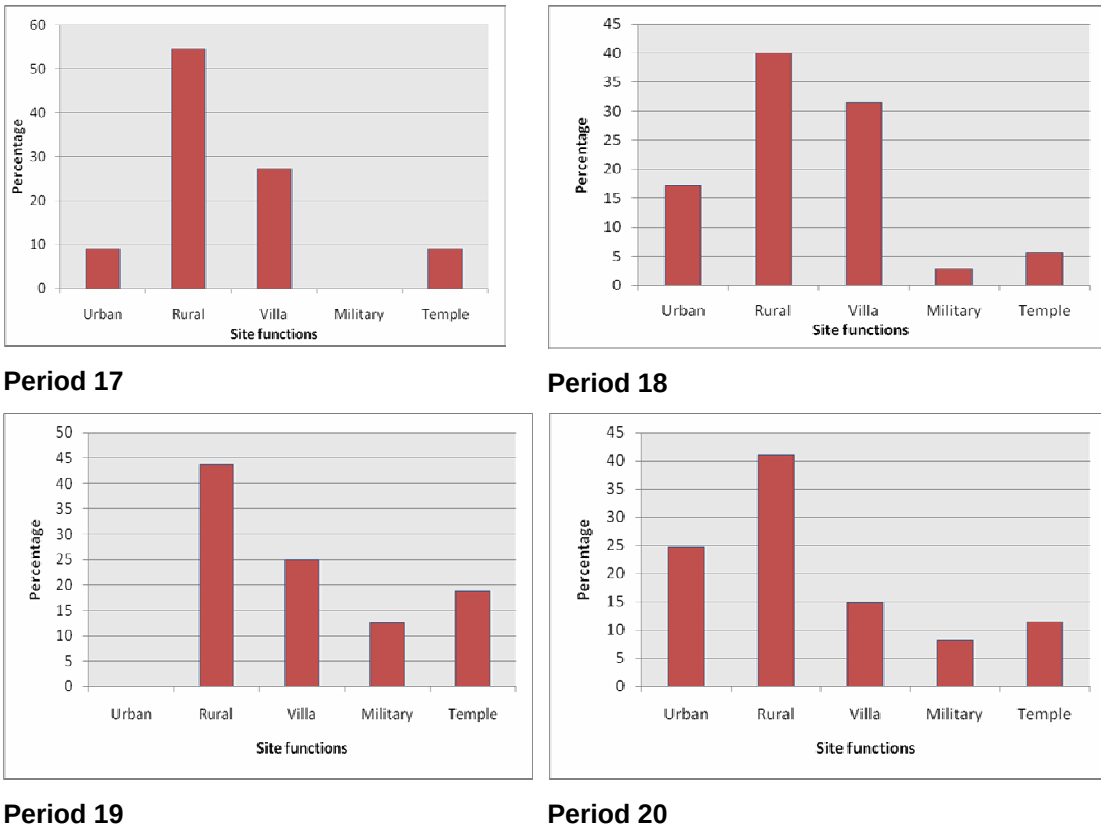


Figure 63: The function of comparative sites between Reece periods 17 and 21.

What might this shift signify? Whilst archaeological evidence appears to indicate the decline and abandonment of most Romano-British towns in the late fourth and fifth centuries (Faulkner 2000, 123ff), it may be that this trend in coin loss reflects population movement from the countryside back into towns.[32] Alternatively, the resurgence in urban coin loss may relate to towns' integral role in the infrastructure of military supply in the late Roman period (Faulkner 2000, 121).

[32] It is clear from the work of Richard Mcphail (Mcphail 2010) that some 'Dark Earth' deposits are the remains of wattle and daub buildings. However, different processes create different deposits in different places and collapsed building material is not the only explanation.

8.5 Dmax Cluster Analysis: Group 3 parishes and sites

In addition to the simple Reece period based study undertaken above, the results of Cluster Analysis can also be used to explore the distribution of fourth century coinage and the function of sites that used it. Indeed, at H30, there are three Cluster Analysis groups with profiles that emphasise mid to late fourth century coin loss: Group 3, Group 12 and Group 16.

Group 3 represents the largest of the three groups and is, in fact, the largest cluster identified by the Cluster Analysis. It comprises 443 parish and site assemblages and a total of 115,772 coins. As it is the largest group identified, it includes profiles with *per mill* values closest to the PAS mean. Figure 64 illustrates that just like the PASM, the profile for the group emphasises coin loss from the late third to late fourth centuries. Although coin loss is recorded for the first to third centuries, the peaks fall in Periods 13 and 14 (AD 260-296), 17 and 18 (AD 330-363) and Period 21 (AD 388-402). Figure 65 illustrates the distribution of parishes and sites allocated to Group 3. They are at their densest in southern and eastern Britain, particularly in Hampshire and East Anglia. Furthermore, there is a clear correlation between their distribution and the road network. However, the quantity of assemblages in the group impedes any detailed study and therefore analysis will concentrate on the sub-divisions of Group 3 created at H20.

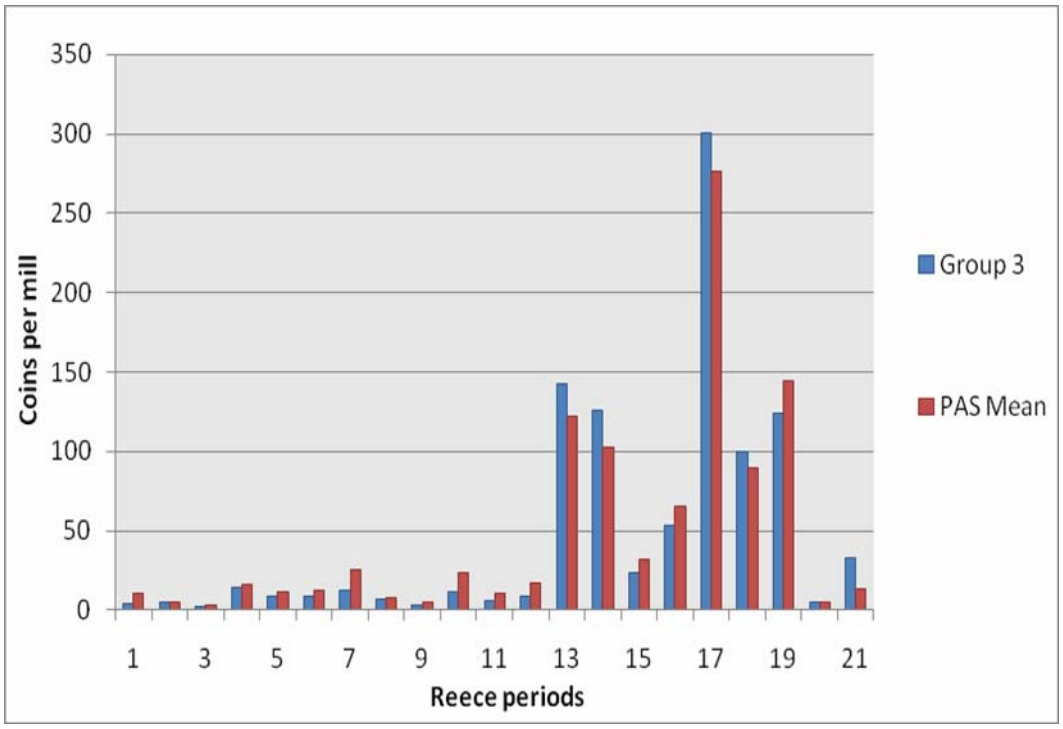


Figure 64: H30 Group 3 profile compared with the PAS Mean.

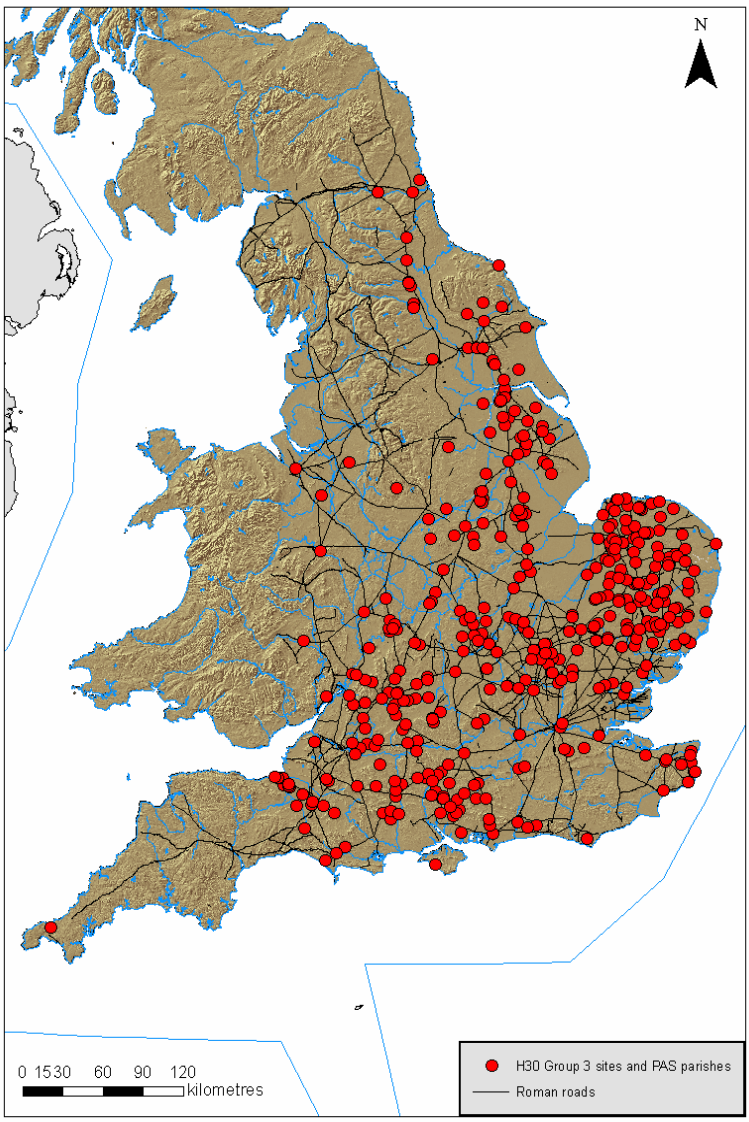


Figure 65: The distribution of Group 3 PAS parishes and comparative sites

At H20, the Cluster Analysis divides Group 3 into seven smaller sub-groups (3, 5, 7, 9, 30, 33). The total number of coins in each sub-group, and their general characteristics are summarised in Table 29. The distribution of sub-groups has been illustrated in Figure 66 according to the chronology of their profiles. As sub-groups 3, 5, 30 and 33 all possess profiles with emphasis on late third to early fourth century coin loss, they have been presented together as Figure 66a. Sub-group 7 which exhibits a profile with an emphasis on coin loss in the mid to late fourth century and particularly

Period 17 (AD 330-348) is presented in Figure 66b. Meanwhile, sub-group 9 which exhibits a profile with an emphasis on coin loss in Periods 18 to 21 (AD 378-402) is presented in Figure 66c. Sub-group 37 has been excluded from analysis.

Figure 66 again illustrates the concentration of coin loss in southern and eastern Britain, seen in the Reece period analysis discussed above. However, it also presents a much clearer pattern of the shrinkage in numbers and contraction in distribution of the most common rural site type. Parishes and sites with peaks of coin loss in the late third to mid fourth century AD (Figure 66a) are located throughout the countryside even away from major road networks and are found both north and south of the Fosse Way. There is a significant shrinkage in the distribution of sites and parishes with a later fourth century emphasis (Figure 66b). Nearly all parishes and sites are found south of the Fosse Way and there are none located along the Sussex coastline. This shrinkage in numbers and geographical distribution continues with sites and parishes with a predominance of late Roman coin loss (Figure 66c). Indeed, by the end of the Roman period, parishes and sites with late fourth century peaks in coin loss are almost completely restricted to sites located on major communication routes, particularly at nodal points such as cross-roads.

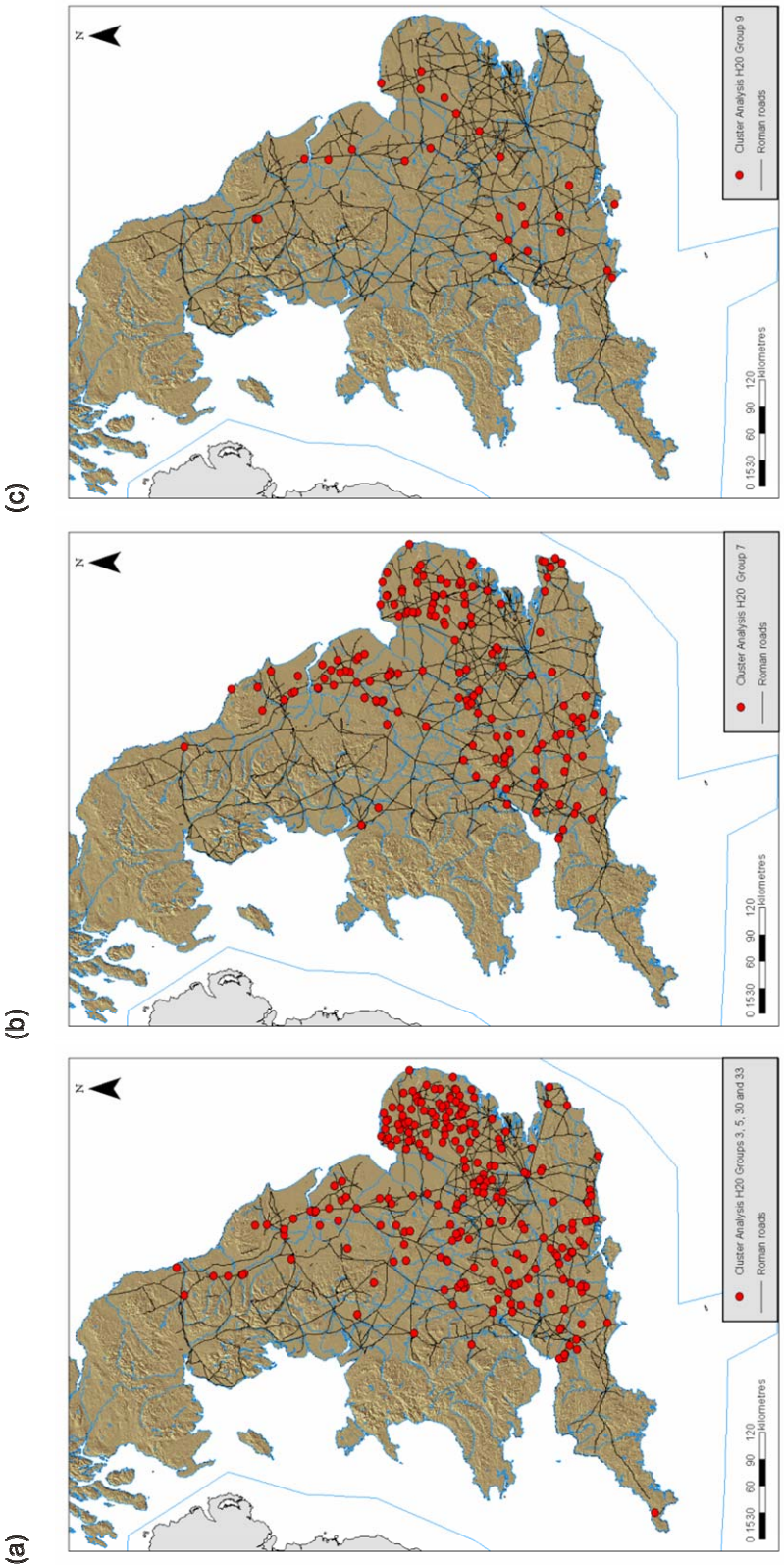
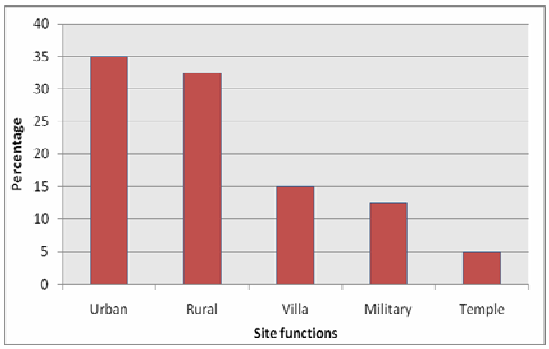


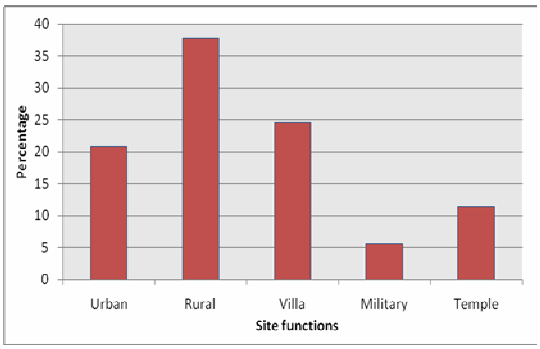
Figure 66: The distribution of (a) H20 sub-groups 3, 5, 30 and 33; (b) H20 sub-group 7 and (c) H20 sub-group 9

8.6 Dmax Cluster Analysis and the function of Group 3 sites

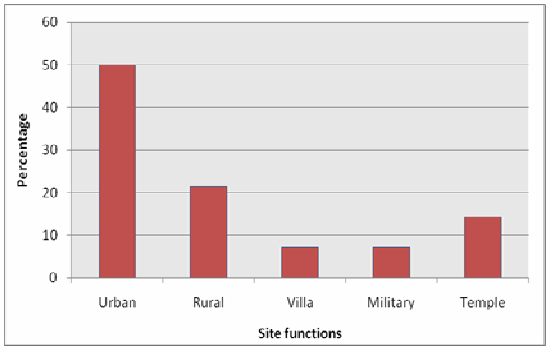
Not only does the distribution of Group 3 sites and parishes match the results of the Reece period analysis, an examination of the percentage function of each site type included in sub-groups 3a to 3d also exhibits the same shift from rural to urban coin loss in the late Roman period seen above. This is illustrated in Figure 67. Sites with a late third to mid fourth century emphasis in coin loss (sub-groups 3, 5, 30 and 33) are mostly urban in nature, although there are also some rural sites represented. However, as the fourth century progresses (sub-group 7), there is a shift away from coin loss at urban sites and instead an emphasis on coin loss at unclassified rural and villa sites. This pattern is reversed at sites with a very late Roman emphasis in coin loss. Just as in the Reece period analysis, there is a resurgence in the numbers of urban sites. Indeed, they account for half of all sites within the sub-group.



H20 Groups 3, 5, 30 and 33



H20 Group 7



H20 Group 9

Figure 67: The function of comparative sites in H20 Groups

8.7 Dmax Cluster Analysis: Group 16

Group 16 is a small group comprising four comparative sites and 173 coins, the details of which are summarised in Table 30. At H20, all four sites remain in the same group (Group 43) suggesting a strong degree of coherence in their coin loss patterns. The group exhibits a late Roman profile with particular peaks in coin loss in Periods 19 to 21 (AD 364-402) as Figure 68 illustrates. Such a profile is unusual in a northern context and yet all sites assigned to the group are situated on the coast of North Yorkshire as Figure 69 illustrates. These sites can all be identified as late Roman watchtowers (Shotter 1999). The precise foundation date for these watchtowers has been a matter of some debate. It has been suggested that they are associated with either the Theodosian restorations of AD 367-368 or the activities of Magnus Maximus in AD 383-4. Whilst the coin loss profiles grouped together here do not provide supporting evidence for one or other of these interpretations, their similarity indicates that the towers were either built as part of a coherent military strategy or occupied by military personnel supplied with coinage from the same source.

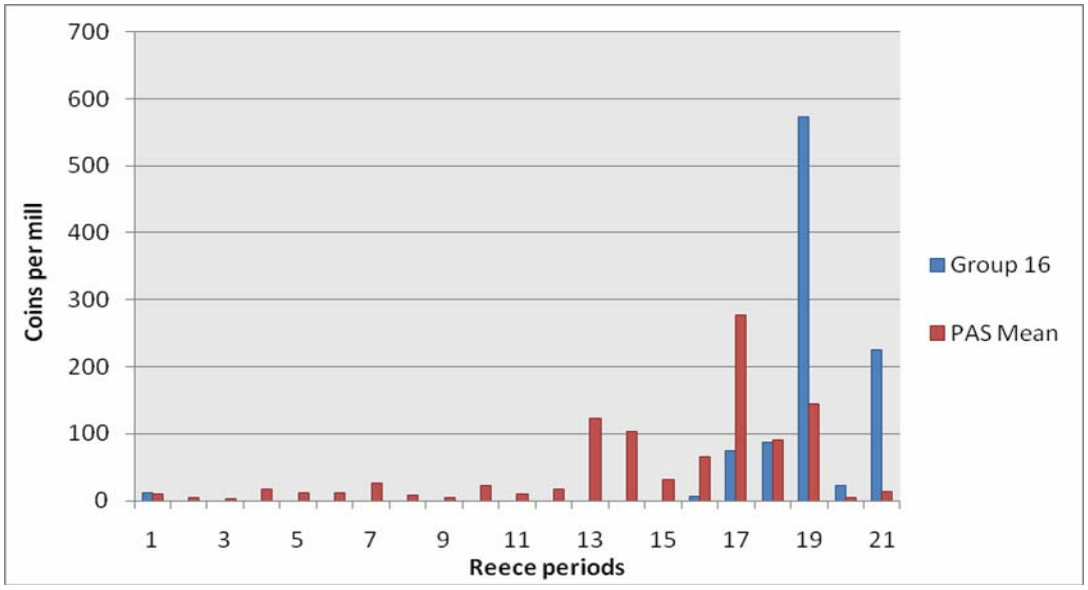


Figure 68: Cluster Analysis (H30) Group 16

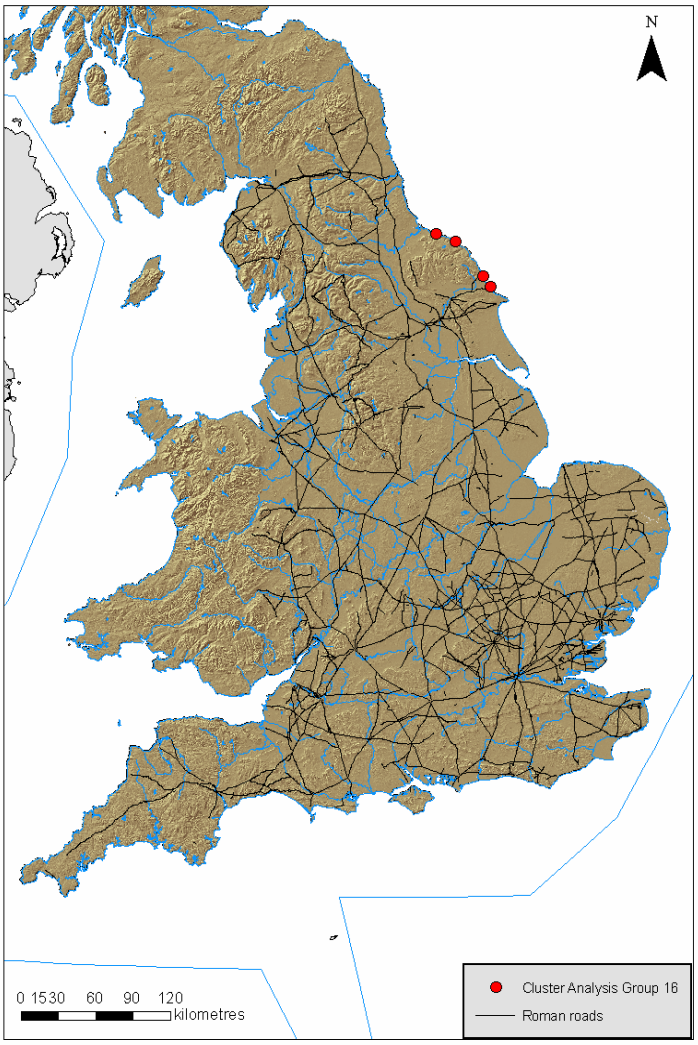


Figure 69: The distribution of Cluster Analysis H 30 Group 16

8.8 Dmax Cluster Analysis: Group 12

Group 12 is another small group comprising four comparative sites but a total of 51,557 coins. The total number of coins is large because of the inclusion of the assemblage from Richborough (C164). At H20, all four sites remain in the same group (Group 34) suggesting a strong degree of coherence in their coin loss patterns. The group exhibits a profile which concentrates on coin loss in the late third and fourth century and particularly on Period 21 (AD 388-402) as Figure 71 demonstrates. With the exception of Richborough, all sites are located in western Britain (see Figure 70). This

distribution may therefore give some support to the theory that the area – '*Britannia Prima'* continued to flourish into the fifth century AD. (White 2007).

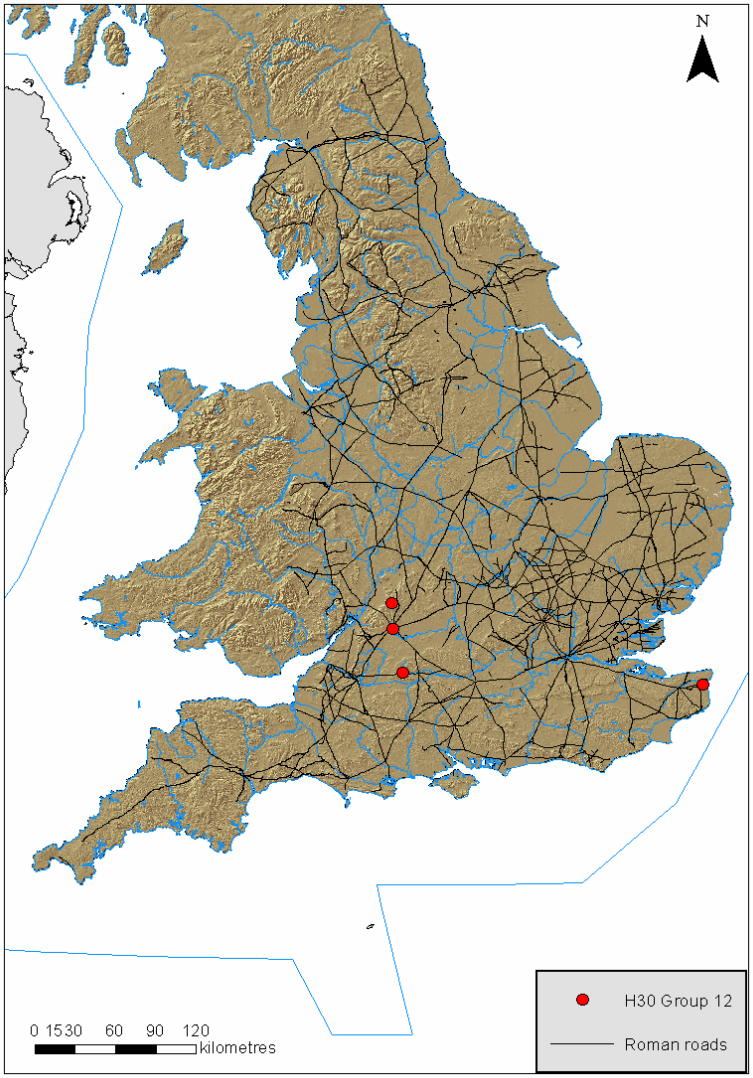


Figure 70: The distribution of Cluster Analysis H30 Group 12

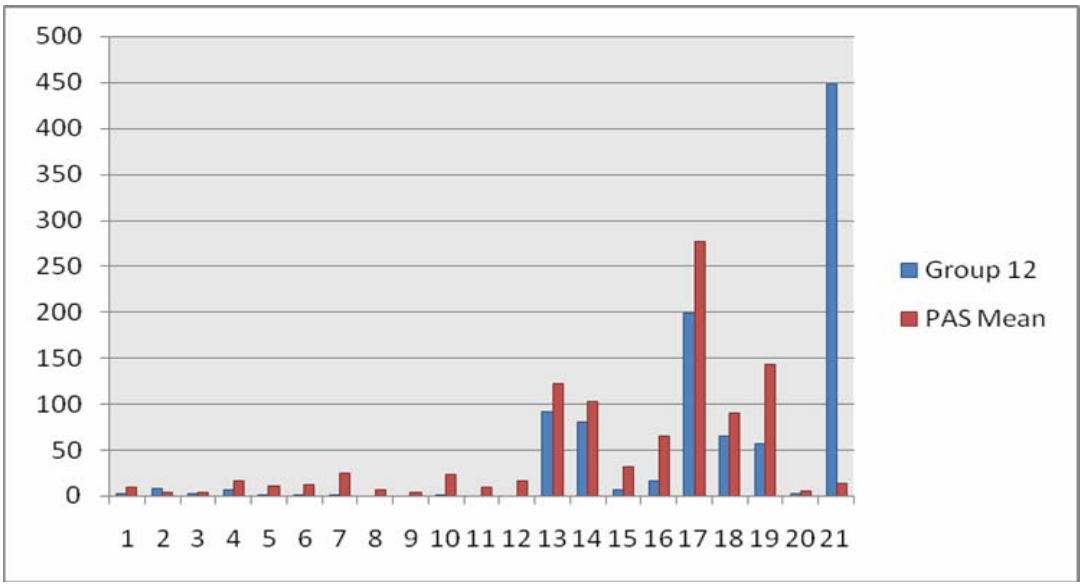


Figure 71: The *per mill* profile of H30 Group 12

8.9 Interpreting the distribution patterns

An analysis of the distribution of coins issued in the late fourth century AD (AD 330-402) by Reece period and through Cluster Analysis has illustrated a number of patterns worthy of further interpretation. First, the emphasis on coin loss in southern and eastern Britain is striking. This emphasis may connect coin use and loss with Roman agricultural productivity as there is an obvious correlation between it and the extent of high yield arable land. Indeed, it has been suggested that the Period 19 peak in coin loss in the West Country and Hampshire represents the increased agricultural output of the area needed to supply troops in the Rhineland (Moorhead 2001a, 94ff).[33] More broadly, the concentrated loss of coinage in this area may represent its continued integration within the provincial administrative and taxation system and the growing wealth of the province of *Britannia Prima* (White 2007, 37). It is, however, interesting to note that the pattern of coin

[33] Laycock 2008, 140 interprets the same Valentinianic peak as indicative of localised disruption and inter-*civitas* violence, rather than as a reflection of agricultural wealth and stability. Although the widespread distribution pattern of parishes and sites with Period 19 peaks argues against such an interpretation, it highlights the way in which the same evidence can be interpreted in divergent ways.

loss at the very end of the Roman period reflects that recorded for the Late Iron Age in Britain. This may in part be a reflection of data collection methods but even so, such clear similarities in distribution may have profound implications for our understanding not only of the function of coinage but also of the development (or non-development) of Romano-British society over the 400 hundred years of Roman rule.

Second, it is clear that the combined PAS and comparative datasets do not present a steady, linear process of contraction and collapse throughout the fourth century AD. Between Periods 17 and 19 (AD 330-378), patterns of coin loss remain ostensibly the same and it is only in Period 20 (AD 378-388), with the sharp decline in the number of coins recorded that there is a real shrinkage in the number of sites and in their geographical distribution.[34] Coin loss then becomes more restricted in its distribution and is most commonly found close to the major Roman roads and at nodal points such as cross-roads. This pattern is reinforced by the functional analyses which demonstrate the resurgence of urban coin loss in Period 21 (AD 388-402). It is possible that this trend reflects the instability of the period and the movement of sectors of the population who used coins to more nucleated, defensible settlements. Alternatively, it may more specifically indicate the movements of and payments to the mobile field armies or militias involved in the defence of the diocese at the time. Indeed, literary references to the billeting of late Roman troops in towns are frequent (Faulkner 2000, 168). Whatever the explanation, analysis of the coins provides intriguing evidence of continued activity in urban centres at the beginning of the fifth century AD.

[34] Faulkner 2000, 144ff also notes that the number of Romano-British rural sites recorded in fieldwork between 1969-96 declines sharply between the late fourth and early fifth centuries AD. He suggests that this pattern may be a reflection of manorilisation of small settlements or land abandonment.

8.10 The distribution of coinage at the end of the Roman period

Having established that processes of decline only become apparent in the late fourth century AD, this section will examine the distribution of coin issues dating specifically to the closing years of Roman rule (Period 21) in more detail. By doing so, it should be possible to present an overview of coinage circulating *c.* AD 410 and to assess the possibility of its continued usage after this date. In particular, the phenomenon of clipping *siliquae* will be provided with some context.

8.11 Dating clipped siliquae

Hoard evidence suggests that an epidemic of *siliquae* clipping happened at some time in the early fifth century. The exact chronology of the phenomenon has been the subject of much debate although it is generally agreed that it is connected in some way to the cessation of coin supply to Britain. The virtually unclipped Terling hoard has been used as evidence that clipping began after AD 404 (Burnett 1984c), the Stanchester hoard pushes that date forwards to *c.* AD 406 (Abdy 2006, 84). whilst a comparison of the date of clipped *siliquae* and imitations in the Hoxne hoard is used to suggest clipping occurred 'for several years, perhaps decades' after AD 409 (Guest 2005, 114). Meanwhile, the Patching hoard is employed as evidence for a *terminus ante quem* of AD 470 for the clipping phenomenon (Abdy forthcoming).

The PAS dataset of clipped *siliquae* cannot resolve this debate. However, it does reinforce the theory that the majority of clipping occurred in the fifth century rather than earlier. As Table 32 illustrates, the percentage of clipped *siliquae* increases as the late fourth century progresses. In Period 18 (AD 348-364) clipped *siliquae* account for only 29% of silver denominations. In Period 19 (AD 364-378), this percentage increases to 42% and in Period 20 (AD 378-388), to 56%. By Period 21 (AD 388-402), clipped *siliquae* account

for 78% of all silver recorded. Indeed, although some early issues of *siliquae* are clipped, their numbers are relatively small and are likely to represent continued circulation rather than fourth century clipping. Furthermore, clipped *siliquae* share an almost identical distribution to both silver and bronze denominations issued in Period 21 (AD 388-402) as Figure 72 illustrates. This indicates that clipped *siliquae* are likely to have circulated at the same time as coinage issued in Period 21.

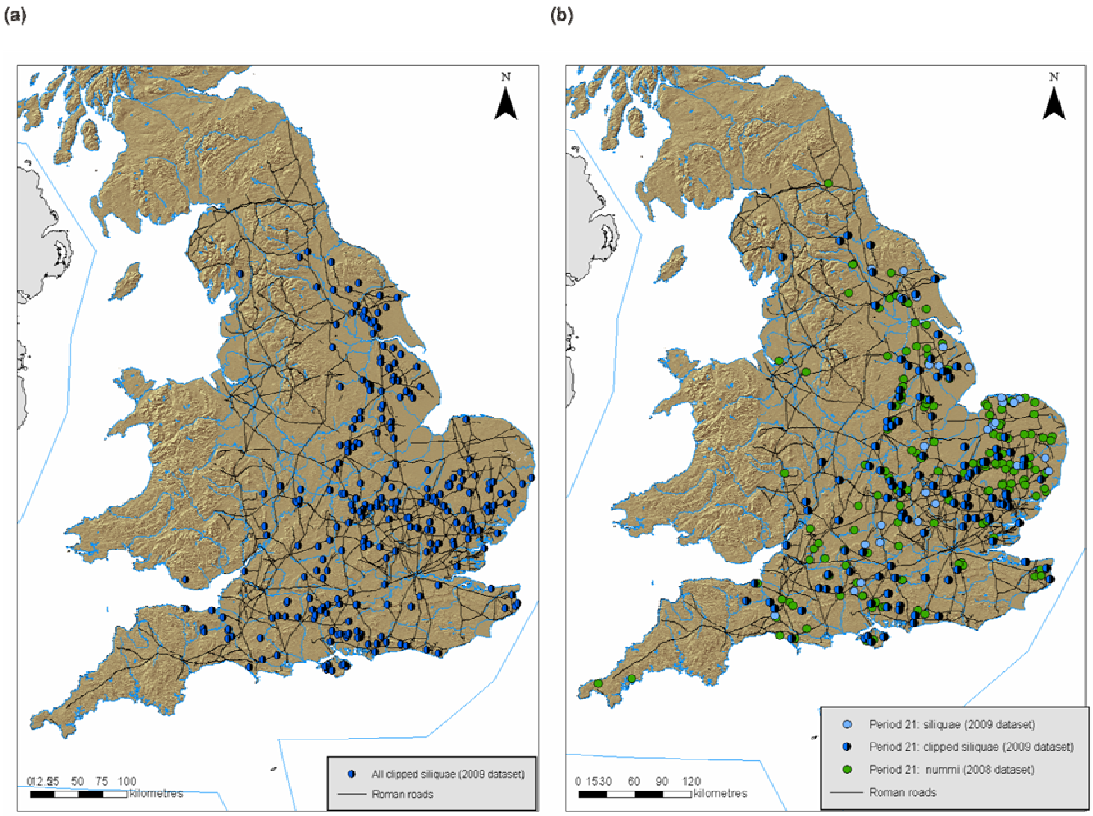


Figure 72: (a) All clipped *siliquae* recorded by the PAS compared with (b) the distribution of all Period 21 coinage

8.12 Circulating currency at the end of the fourth century AD

It has been established that clipped *siliquae* were predominantly circulating in the early fifth century AD alongside Period 21 issues. Figure 73 therefore provides a comprehensive overview of the distribution of currency circulating *c.* AD 410. As seen elsewhere, the majority of issues have been recorded

south and east of the Fosse Way in an arc across Britain running from the West Country to Lincolnshire. However, there is also a significant concentration of material, north of the Humber and in the vicinity of York. In terms of individual denominations, *nummi* exhibit a wider distribution pattern than both clipped and unclipped *siliquae* and are recorded in areas where there is little or no silver such as Cornwall, the north west and Norfolk. Indeed, the dearth of *siliquae* and particularly clipped *siliquae* from Norfolk accompanied by the relatively large numbers of *nummi* is particularly striking. At present, it is difficult to account for this pattern although it is possible that it is the result of irregular data recording methods in Norfolk.

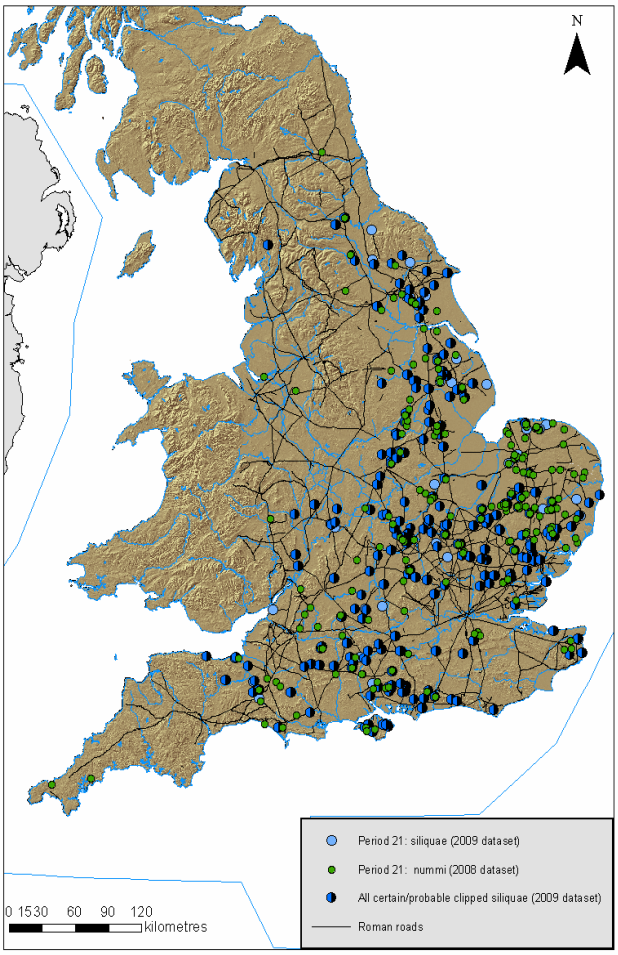


Figure 73: The distribution of coinage circulating in the early fifth century AD

8.13 Comparison with Period 21 hoard evidence

The pattern of coinage circulating in the early fifth century AD has also been compared with the distribution of hoards ending in issues of Honorius (AD 384-423) or later emperors in Figure 74 and summarised in Table 33. It is immediately clear that hoards and site finds share a common distribution pattern. In the same way as site finds, the majority of hoards are found south and east of the Fosse Way in an arc running across Britain from the West Country to Lincolnshire. There is also a concentration of *siliquae* hoards north of the Humber estuary in the vicinity of York. This indicates that coins were hoarded wherever coins were available and contradicts the argument which attributed a perceived concentration of coin hoards in eastern Britain to instability caused by Germanic incursions (Mattingly 2006, 283).

Not only is the distribution of hoard and site find evidence similar, there are also some similarities in the denominations deposited. For example, the prevalence of *nummi* in north western Britain is also reflected in the hoard evidence whilst the dearth of *siliquae* in Norfolk appears to be echoed by a lack of *siliquae* hoards. However, there is not always a simple correlation between the density and denominations circulating and hoards deposited. For example, the large quantity of *nummi* recorded by the PAS in Suffolk and Norfolk does not translate into a large number of *nummus* hoards whilst conversely on the Isle of Wight, the large quantity of coin hoards ending in Period 21 issues is not reflected in the numbers of site finds recorded.[35]

[35] Nine hoards including a total of more than 2,270 *nummi* have been recorded on the Isle of Wight. This contrasts with the PAS dataset of 2 Period 21 issues.

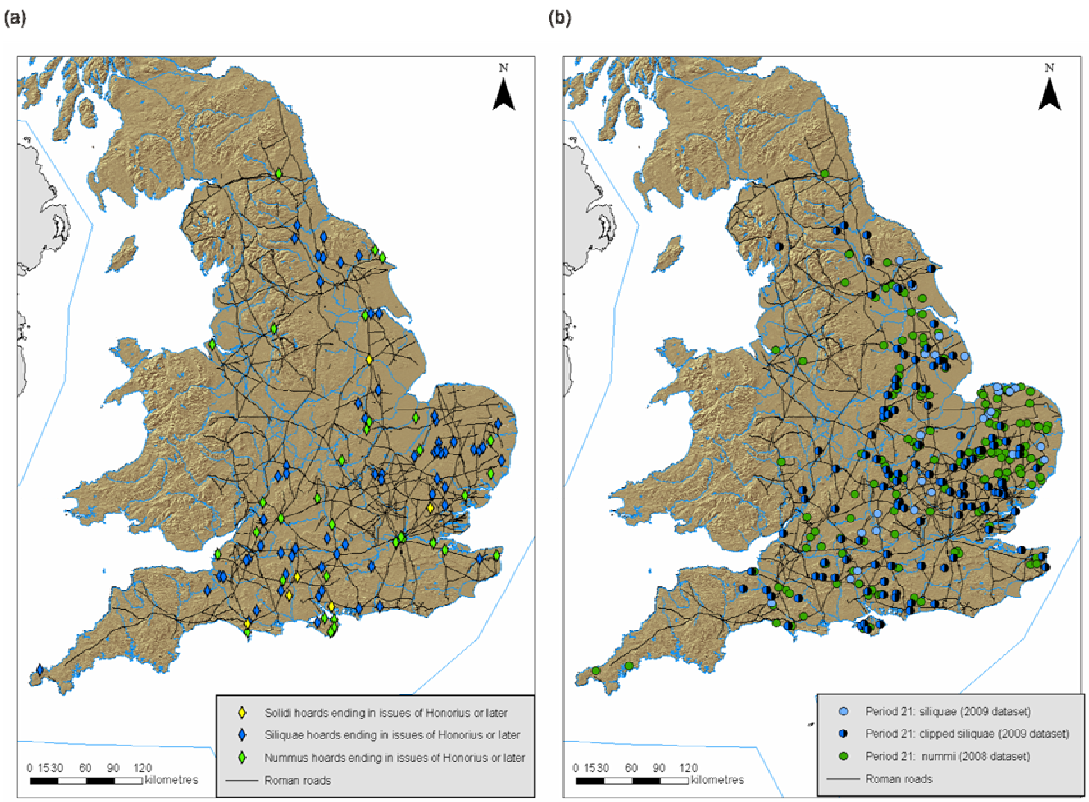


Figure 74: the distribution of (a) hoards ending in issues of Honorius or later emperors compared with (b) coinage circulating in Period 21 (AD 388-402)

8.14 The distribution of Late Roman material culture

There are very few artefacts which can be assigned a specifically late fourth or early fifth century date range. However, the distribution of some types of late Roman metalwork exhibit a striking degree of similarity with the pattern of Period 21 coin loss and Honorian hoard deposition, as Figure 75a to c illustrate. Indeed, cut-down copper alloy bracelets dating to the early fifth century (Swift *pers comm.)* and late Roman belt fittings (Laycock 2008, 114ff; Leahy 2007) are found almost exclusively in southern and eastern Britain. Again, as with coinage, the Fosse Way acts almost as a barrier to their wider distribution. At a site specific level, it has been noted that there is a strong bias in the distribution of the bracelets towards military installations and large towns (Swift 2010, 245) although detailed analyses of the findspots of belt fittings has not been undertaken. This corresponds with the

emphasis on coin loss in towns in Period 21 (AD 388-402) shown in the numerical and statistical analyses presented above. It indicates that the people who were using and hoarding coins were one and the same as those adopting Roman forms of dress and personal adornment. But who were these people?

Whilst some scholars have argued that late Roman belt fittings are specifically military in function (Laycock 2008, 128), there is growing awareness that they acted as the insignia of civilian administrators and may also have been adopted by local militias (Leahy 2007). However, the similarity in distribution with cut down bracelets suggests that southern and eastern Britain, whilst perhaps being a militarised zone in the early fifth century AD, was also a region where the population continued to strongly identify themselves as Roman through material culture (Swift 2010, 245).

Figure 75: (a) The distribution of cut-down bracelets dating to the late fourth or early fifth centuries AD (Ellen Swift); (b) late Roman belt fittings (Laycock 2008, 115); and (c) the distribution of plain loop buckles (Laycock 2008, 127)

8.15 The circulation of coinage after AD 402

Increasingly scholars are ignoring the traditional date for the 'End of Roman Britain' and looking beyond AD 410 for evidence of continuity into the later fifth century AD. Whilst the regular supply of coinage to Britain ceased in the early fifth century AD, there is some indication that currency continued to be used in some capacity well into the fifth century AD. Indeed, 174 gold coins dating to the fifth century AD are known from Britain both as single finds and in hoards (Bland and Loriot 2010, 43). There is also a small but significant quantity of *siliquae* issued by Constantine III in hoards with a *terminus post quem* of AD 407 to 411 such as Hoxne (Guest 2005) and Patching (Orna-Ornstein 2009b). Furthermore, despite the accepted orthodoxy that bronze coins ceased to circulate in the early fifth century AD, twelve *nummi* dating to the period AD 408-435 are known from Britain. These include five *nummi* of Valentinian III dating to the period AD 425-435 from St Albans, Wroxeter, Dunstable and Richborough (Abdy and Williams 2006, 31ff). The very presence of these coins, summarised in Table 35 to Table 38 suggests continued links with the continent and possibly the continued presence of late Roman officialdom amongst sectors of sub-Roman society (Moorhead 2006, 105).

Figure 76a to c illustrate the shrinkage in coin loss patterns during the fifth century AD. At the beginning of the fifth century AD, coin loss is widespread throughout southern and eastern Britain (Figure 76a). Although the numbers of coins lost decreases significantly in the period AD 402 to 425, their distribution remains relatively similar (Figure 76b) with concentrations in East Anglia, the north Kent coast and in Hampshire. This similarity may indicate that Period 21 issues and clipped *siliquae* remained in circulation until *c.* AD 425. However, coins minted after AD 425 exhibit a far more restricted pattern with clusters of material located predominantly along the Sussex and Kent coastline and in East Anglia (Figure 76c). Lastly, of particular interest, is the striking similarity between the distribution pattern of

clipped *siliquae* and that of silver *sceattas* dating to the period AD 650-710 (Figure 76d) recorded by the PAS.[36] Is this similarity merely a reflection of collection methods of metal detecting data or evidence of some sort of continuity in coin use spanning the late Roman and Early Medieval period?

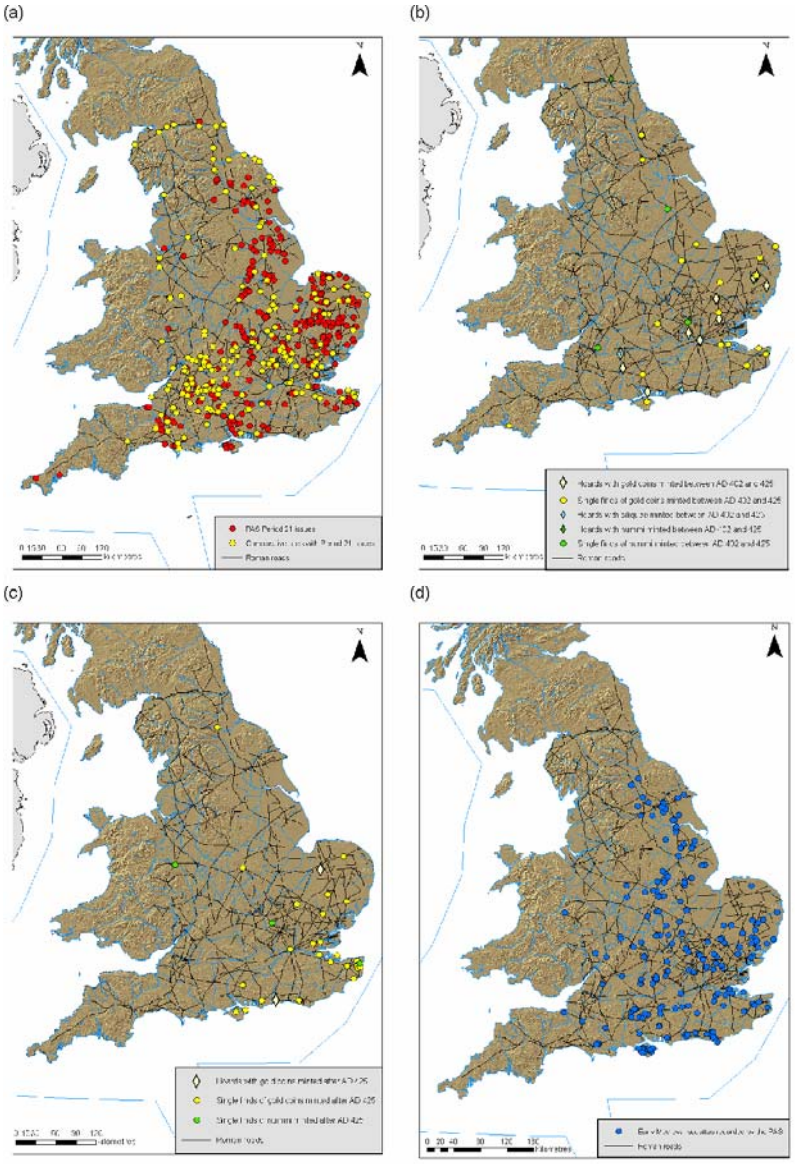


Figure 76: (a) the distribution of all clipped *siliquae* compared with (b) the distribution of coins minted between AD 402-425; (c) the distribution of coins minted between AD 425-492; (d) the distribution of Early Medieval *sceattas* recorded by the PAS

[36] The dataset of 337 *sceattas* was downloaded from the PAS database on 11.11.2010.

8.16 Conclusions

This chapter has touched upon many themes which are key to understanding Late Roman Britain. The coin evidence does not indicate a slow, gradual process of decline leading to the inevitable collapse of the diocese in AD 410. Instead, the distribution pattern of coinage remains relatively static until Period 20 (AD 378-388) when a decrease in the number of coins supplied appears to have resulted in the geographical contraction of coin use away from the countryside and back to urban centres. Furthermore, it has presented an overview of the distribution of coinage in the early fifth century AD and suggested the continued circulation of not only clipped *siliquae* but of a tri-metallic currency system until *c.* AD 425. Such an observation has implications for the study of the transition between Roman Britain and Early Medieval England.

Chapter 9

An analysis of Roman coin loss on the Isle of Wight

9 Introduction

This chapter investigates the chronology and distribution of Roman coins recorded by the PAS on the Isle of Wight and aims to use the results of this investigation to place the island in a regional and national context. As an island on the periphery of the province, the Isle of Wight might appear an idiosyncratic choice for a regional case study. However, as it existed as a discrete geographical unit in the Roman period with the Roman historian Suetonius referring to it as *Vectis* (Suetonius *Vespasian* 4), it presents none of the methodological difficulties which would arise from the study of a modern county or region.

The chapter is divided into two sections. The first section investigates the Isle of Wight as a region and compares coin loss profiles for the island with national and regional means calculated with PAS data. The second section explores variation in coin loss on the island at both a parish and sub parish level. Probable archaeological sites and their chronologies are identified with the chronology and function of 20 sites within three adjacent parishes explored in more detail.

9.1 Previous study of Roman Wight

Research into the settlement pattern and development of Roman Wight has been limited. Antiquarian and modern excavations have concentrated on a series of villa complexes located along the central chalk ridge, particularly those known at Brading, Newport, Rock and Carisbrooke. The results of these excavations, combined with a lack of evidence for any urban centres, have led to the island being characterised as a predominantly agricultural zone with the local pottery industry, export of Bembridge limestone and salt production playing only a minor role (Basford 2008, 13; Sydenham 1945, 413; Tomalin 1987, 12). However, this essentially agrarian interpretation cannot be reconciled with growing evidence that the island benefited significantly from trade or exchange with Gaul and the Mediterranean world,

from the Iron Age onwards. 32 sites on the Isle of Wight have produced sherds of Dressel I *amphorae* (Trott and Tomalin 2003, 166) whilst five have produced sherds of Dressel 20 (Trott and Tomalin 2003, 168) indicating the consumption of both Italian wine and olive oil in the first century BC and early first century AD. Particular concentrations of material noted at Yarmouth Roads and Fishbourne Beach have been interpreted as evidence of potential anchorages, or *emporia* (Trott and Tomalin 2003, 167). The pottery evidence is supplemented by the discovery of rare Alexandrian glass from Bowcombe villa (Tomalin 1987, 42) single finds of Alexandrian *billon* coins from Newport and Fishbourne (Sydenham 1943, 388) and coinage with eastern mintmarks in late Roman coin hoards (Lyne 2007), which all attest to a network of maritime links with both local and continental markets.

Despite the evidence that the island was not a rural backwater, there have been few attempts to draw together the various classes of material culture to characterise the island or to place it within a regional, provincial or empire-wide framework. Detailed study has been hindered by the fact that only a small percentage of the excavations undertaken on the island have been published and therefore few finds or coin reports exist. A summary catalogue of objects from the island was compiled before the introduction of the PAS, illustrating a range of finds recovered from excavations (Tomalin 1987). It did not analyse their significance in any detail and coin lists were not included within the publication. Indeed, the last study of Roman coinage from the Isle of Wight was undertaken more than sixty years ago (Sydenham 1943). Concentrating almost exclusively on the evidence provided by hoards, the study concluded that there was little coin use on the island until the mid third century and that even then it was dominated by bronze denominations. It was ‘a poverty stricken coinage [implying] a poverty stricken people’ (Sydenham 1943, 387).

With the PAS providing a new source of information, a review of the Roman coin evidence is timely. Indeed, the PAS dataset represents an opportunity to study site finds from the Isle of Wight, for the first time. In conjunction with the details of hoards, they provide a powerful resource with the potential not only to provide an overview of coin supply, circulation and loss for the island but also to stimulate wider debate about settlement patterns, trade and the development of *Vectis* throughout the Roman period.

9.2 Data used in this study

The primary dataset used in this study comprises a total of 980 coin records from 21 parishes (out of a total of 34 parishes) on the Isle of Wight as well as an area to the south of Newport which possesses no parish affiliation. The distribution of all coins recorded is presented in Figure 77a. This dataset was downloaded from the PAS database on 15 June 2010. From the overall total, 649 coins belong to parish assemblages of twenty or more coins. The remaining 331 coins can be classified as 'stray' losses, were too worn or corroded to be assigned to Reece periods or were located within the area with no parish affiliation. Whilst analysis of the distribution of stray losses will be undertaken, the emphasis of this study will be on the ten parish assemblages and clusters of coins therein.

The number of coins used in this study is more than twice that recorded for the Isle of Wight at the time of original data collection in March 2008. Although elsewhere in this thesis, data collected in 2008 have been used, it was felt that the potential contribution of such a large volume of supplementary material, could not be ignored. Unfortunately, the Cluster Analysis was undertaken prior to the collection of this new dataset and therefore the statistical technique has not been employed in this case study.

All coins were recovered as a result of metal detecting, almost exclusively by members of two clubs based on the island, The Isle of Wight Detecting

Club and The *Vectis* Searchers. Their good practice has ensured that a largely representative sample of Roman coins *found* on the Isle of Wight has been recorded by the PAS, whilst the use of GPS to record accurate findspots has enabled a detailed analysis of coin loss patterns within individual parishes. However, there are problems with relying too heavily on the PAS data as an indicator of the geographical extent of coin loss in the Roman period. A large part of the island is obscured by the modern urban areas of Cowes, Newport, Ryde and Sandown, is owned by the National Trust or has been afforded Site of Special Scientific Interest status and this precludes the possibility of extensive metal detecting. In addition, permission for metal detecting has been obtained more easily in the parishes of Shalfleet and Calbourne than elswhere. All these factors have led to the western half of the island being detected far more intensively than the eastern half (Basford *pers comm.*). This is evident not only in the distribution of Roman coins but of objects of all periods recorded on the island as illustrated in Figure 77a and Figure 77b respectively.

These biases are somewhat mitigated by supplementing the PAS data with two further sources of information. Firstly, a query was submitted to the Isle of Wight Historic Environment Record in June 2010, regarding Romano-British archaeology on the island. The results, comprising 108 Monument Records, are listed in Table 39 and integrated into discussion where appropriate. Individual findspots of artefacts or coins recorded by the HER have not been included in analysis, due to the possibility of duplication with PAS records, whilst details of a possible votive or temple assemblage in the parish of Newchurch have also been omitted in the absence of a detailed and accurate coin list.[37] Several findspots are located offshore and relate to underwater investigation and survey. Secondly, the details of 25 coin hoards

[37] The existence of a large assemblage of approximately 600 coins and 150 objects ranging in date from the Late Iron Age to the Late Roman period has been noted by the Isle of Wight HER from Down Ground, Newchurch. The assemblage was recovered as a result of metal detecting prior to the introduction of the PAS.

from 18 parishes have been collected in order to create a comparative dataset and are summarised in Table 40. This was deemed necessary as few coin reports from excavations exist and those which do are either inadequate summaries or include details of only a very small number of coins.[38] For example, it appears that several seasons of work at Combley villa, Arreton recovered a total of five coins (Fennelly 1969, 281; Fennelly 1971, 428) whilst the excavations at a corn drying kiln at Packway, Newchurch produced only one fourth century issue (Tomalin 1990, 43ff).

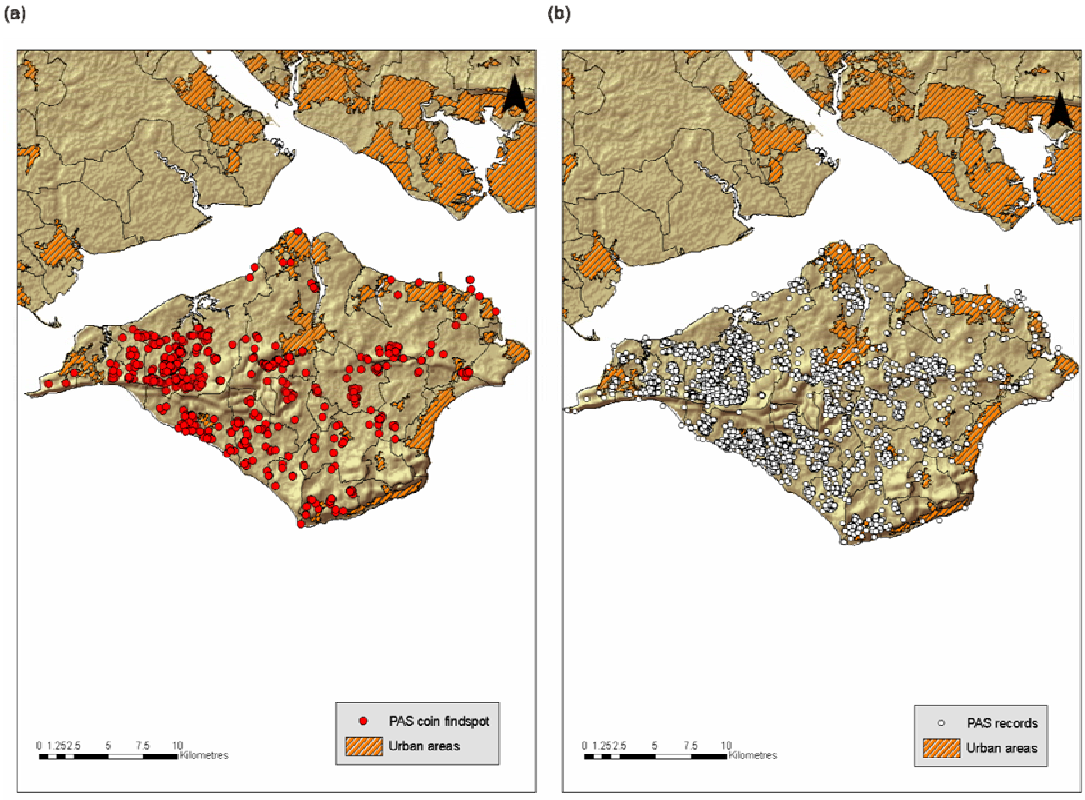


Figure 77: The distribution of (a) coins recorded by the PAS on the Isle of Wight and (b) all objects recorded by the PAS on the Isle of Wight

[38] Sydenham 1945 gives a summary of the coins from several Roman sites. At Brading villa, the coins 'range from Domitian to Honorius; the proportion of silver (denarii) being unusually large for an Isle of Wight find' (p. 419) At Newport villa, the coins range 'from Antoninus Pius to the end of the fourth century AD' (p. 422). At Carisbrooke, there were 'bronze coins of Postumus, Gallienus, Claudius Gothicus, Constantine I and II' (p. 424)

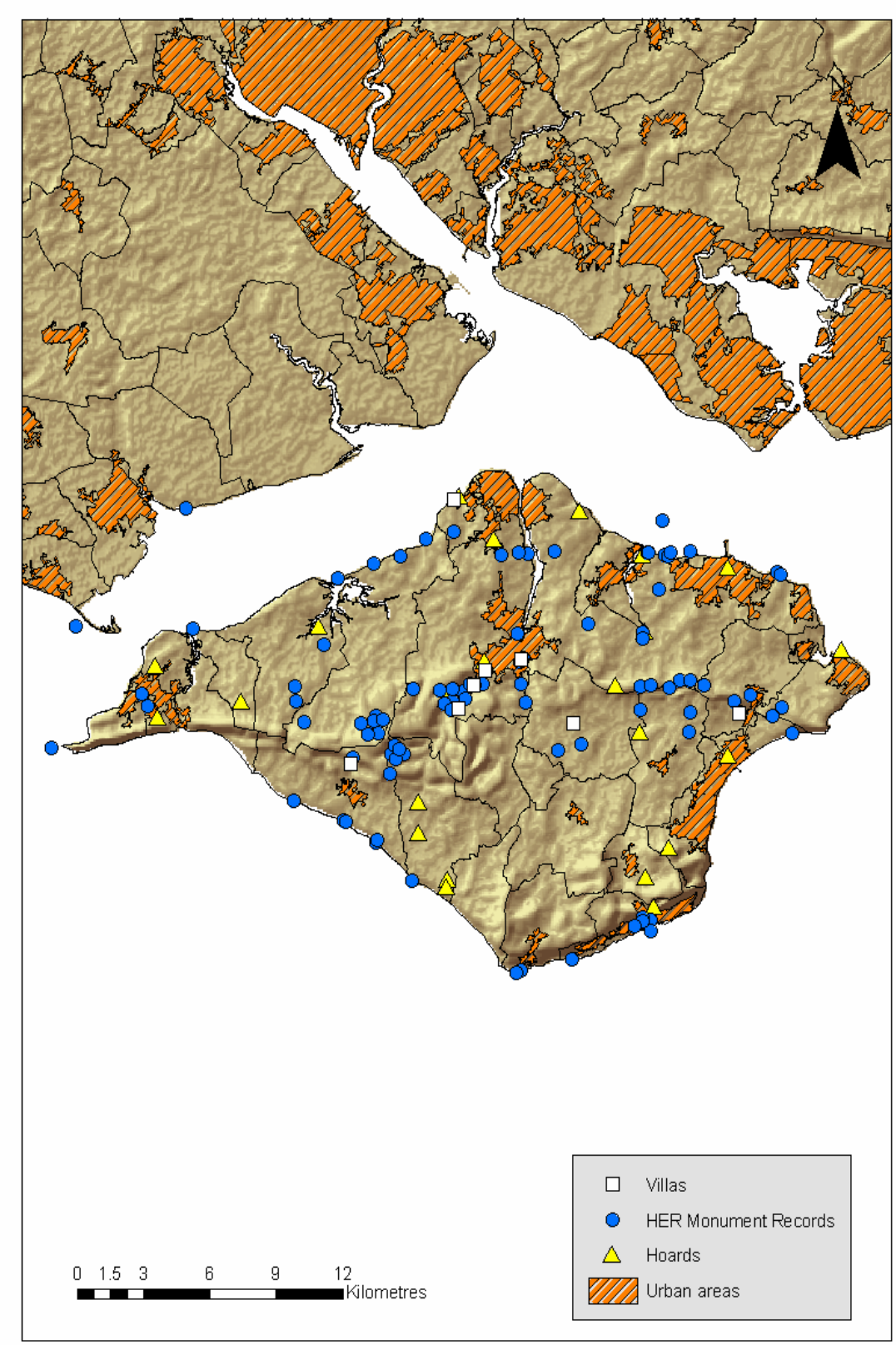


Figure 78: The distribution of Roman coin hoards and HER monuments

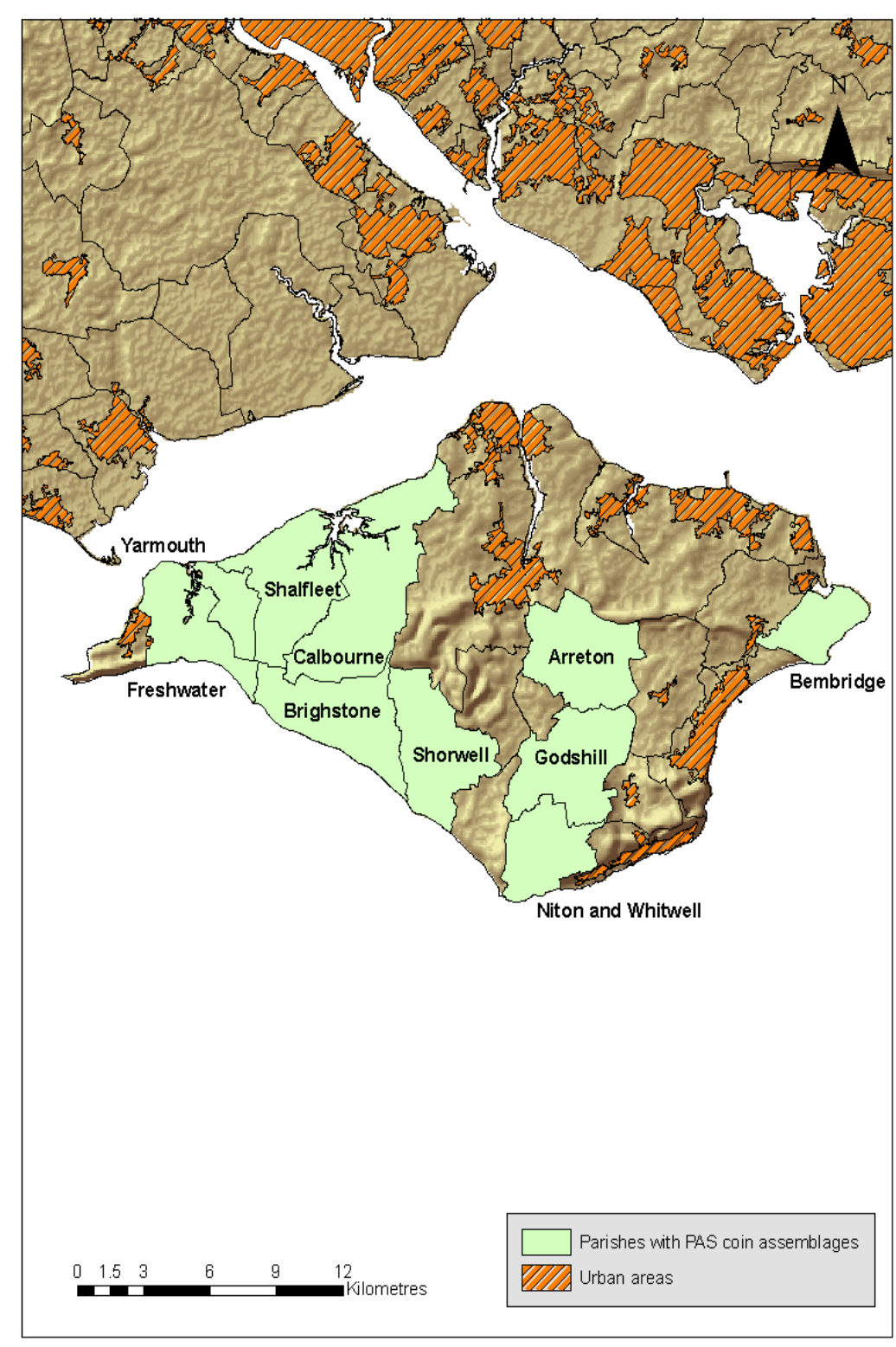


Figure 79: Parishes with 20 or more coins recorded by the PAS

9.3 Comparing the Isle of Wight Mean with the PAS Mean

In order to place the pattern of coin loss recorded on the Isle of Wight in both a national and regional context, a mean has been calculated for the island using the 649 coins from 10 parish assemblages (IOWM). This mean is presented in Figure 80 and its values summarised in Table 42.

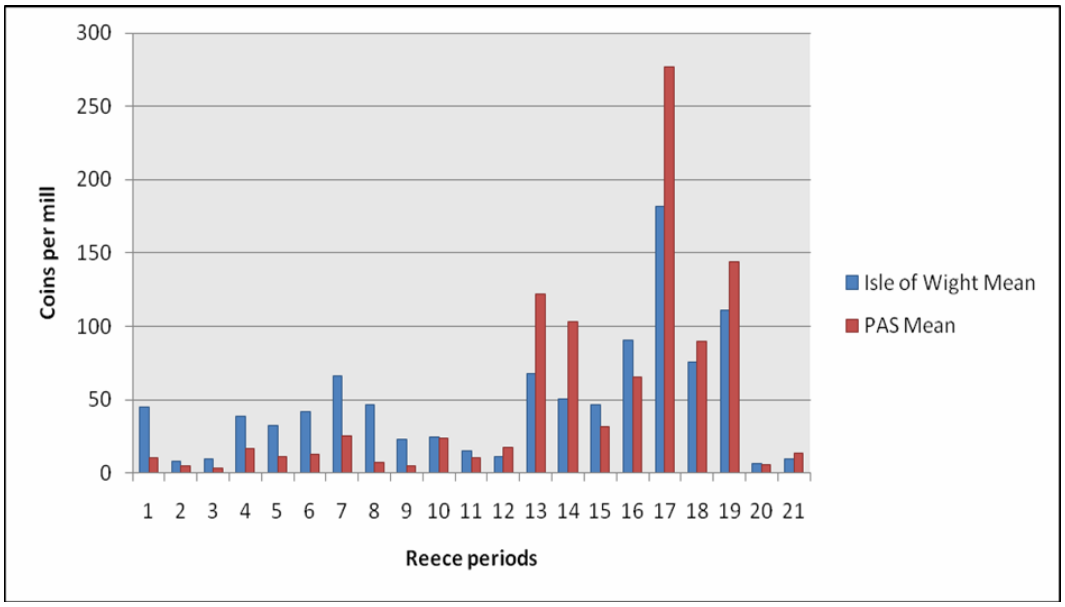


Figure 80: The Isle of Wight Mean and PAS Mean compared

Not only does the pattern of coin loss exhibited by the IOWM differ from the late Roman pattern described by Sydenham for the island (Sydenham 1943, 386ff), it also has very little in common with the national pattern represented by the PASM. Whilst the PASM has a profile exhibiting very low values for early coin loss followed by much higher values for the late third and fourth century AD, conversely the IOWM exhibits high coin loss for the first to third centuries and much lower values for the later third and fourth centuries AD. Indeed, between Periods 1 and 9 (Republican to AD 196), the values of the IOWM range between twice and four times those of the PASM, whilst in Periods 13 and 14 (AD 260-296), 17 to 19 (AD 330 – 378) and 21 (AD 388 – 402) the values are far lower than the PASM. Indeed, the extremely low *per*

mill values for Period 13 and 14 are particularly striking, as they indicate that the Isle of Wight did not share in the pattern of high volume *radiate* loss seen almost everywhere else in Britain in the late third century. However, the IOWM is not a straightforward profile exhibiting high *per mill* values for the early and mid Roman period followed by much lower *per mill* values for the late Roman period. There is a short peak in coin loss in the early fourth century with IOWM values for Periods 15 and 16 surpassing those of the PASM. This may possibly suggest a short period of intense activity in the early fourth century AD after the defeat of Allectus.

It is clear that the Isle of Wight exhibits a peculiar pattern of coin loss when compared with the national background. However, it is also important to place the IOWM within a regional context and therefore the IOWM has been compared with a set of mean values calculated for the county of Hampshire (HM). These are presented in Figure 81 and summarised in Table 42. Despite the geographical proximity of Hampshire, the IOWM and HM do not share a similar pattern of coin loss, at least in the early Roman period, with HM having more in common with the rural facing PASM. Between Periods 1 and 9, the values of the two means differ considerably and whilst they are more comparable in the fourth century, the contrast is particularly apparent in Periods 13 and 14 (AD 260-275) and Periods 17 (AD 330-348) and 19 (AD 364-378). Notable is the difference between the IOWM value for Period 13 of 68 *per mill* and that of Hampshire at 158 *per mill*.

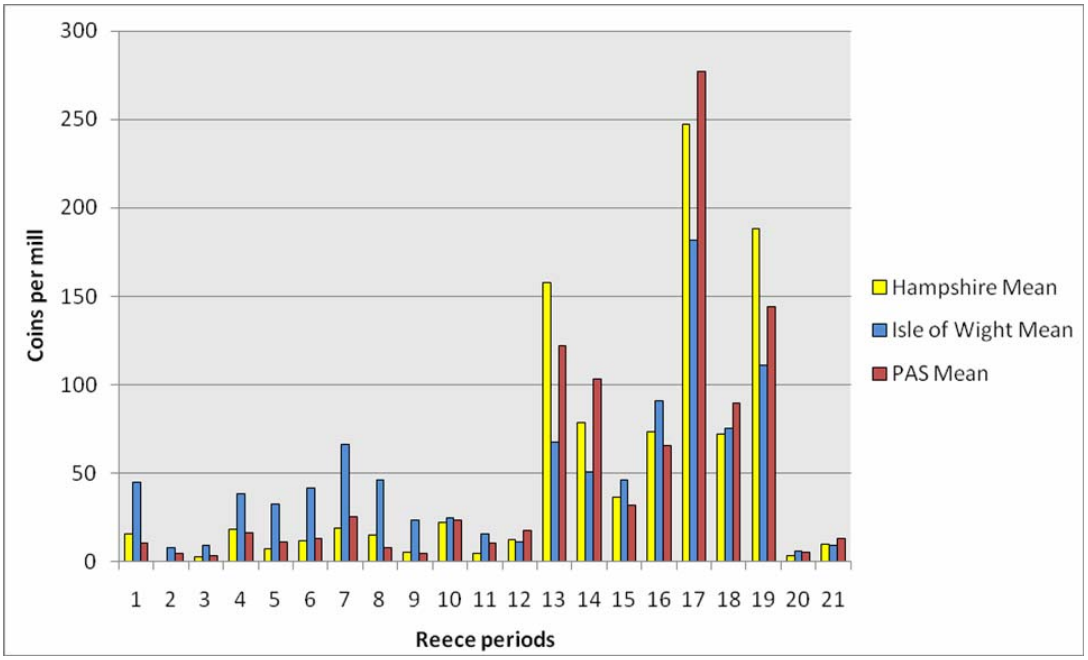


Figure 81: The Hampshire and Isle of Wight mean values compared

9.4 Comparing the Isle of Wight Denominational Mean with PASDM

An investigation of the proportions of each denomination in the Reece periods of the Augustan coinage system (Periods 1 to 12) may also cast light on the pattern of coin supply, circulation and loss on the Isle of Wight. Therefore the Isle of Wight Denominational Mean (IOWDM) has been calculated using 294 coins and the method outlined in Chapter 4. The mean is presented in Figure 82a and is supplemented by a stack barchart (Figure 83a) which illustrates the percentage proportions of each denomination in each Reece period. The IOWDM is of limited use in isolation and therefore it has been compared with two regional means: that calculated for the area to the south of the Fosse Way (SFWDM) and that calculated for Hampshire (HDM). The SFWDM is presented in Figure 82b and is supplemented by a stack barchart of denominational percentages in Figure 83b.

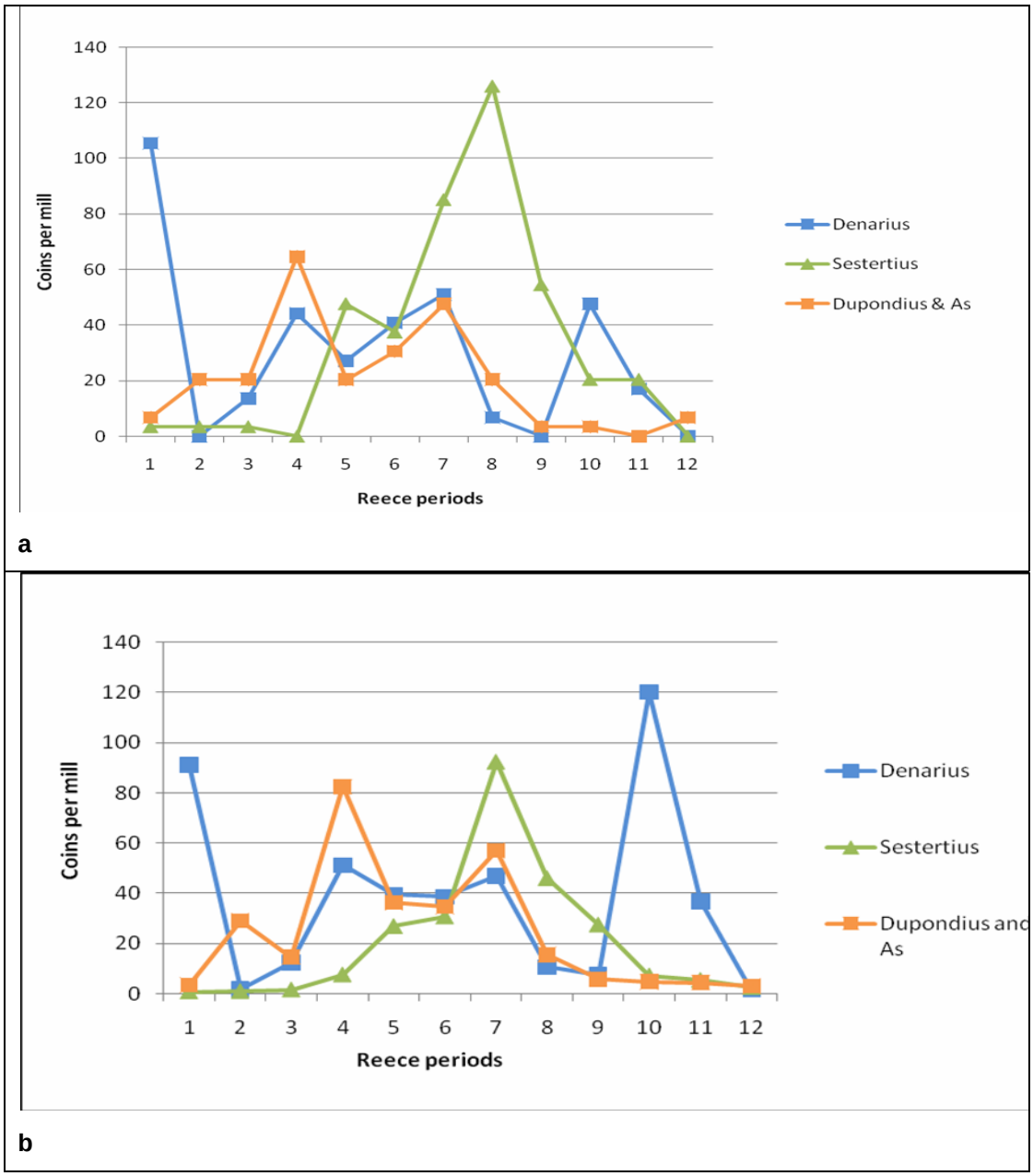
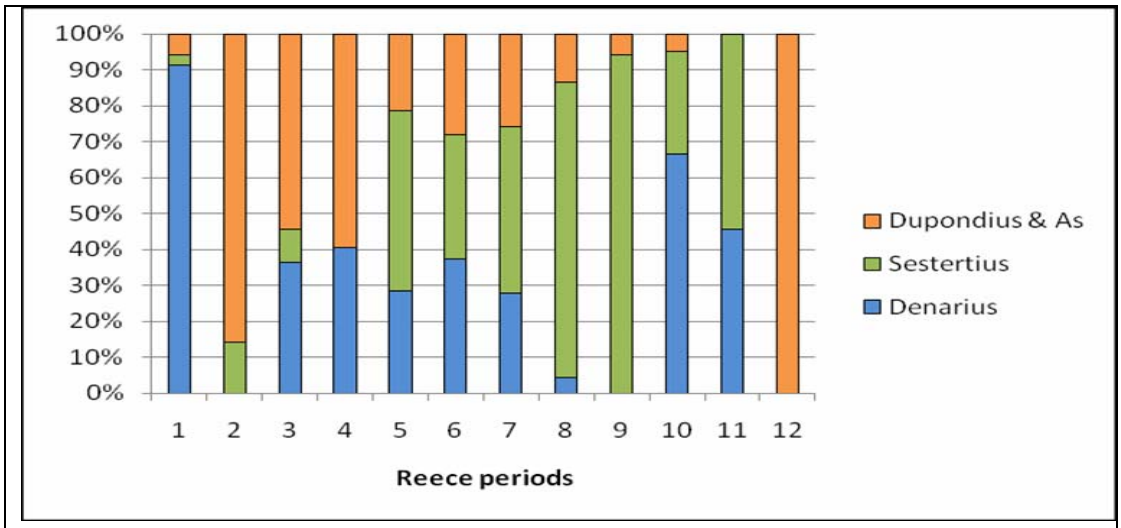


Figure 82: (a) Denominational Mean for the Isle of Wight compared with (b) the denominational mean for the south of the Fosse Way (SFWDM)

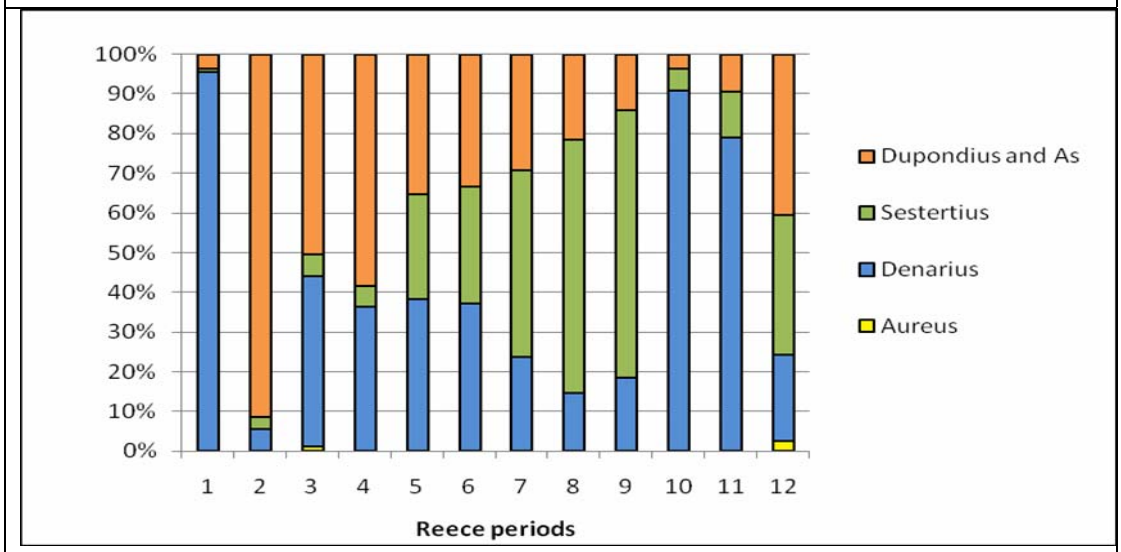
In many respects the IOWDM reflects the peaks in volume and denominational relationships of the SFWDM. The *denarius* peaks in Periods 1, 4, 7 and 10, the *dupondius* and *as* in Periods 4 and 7 and the increasing dominance of the *sestertius* throughout the second century can be all be recognised. This suggests that the Isle of Wight falls broadly within the

pattern of coin loss (and supply?) for southern Britain. There are, however, several points of divergence between the two denominational means. For example, the *per mill* value for Period 1 *denarii* is much higher in the Isle of Wight dataset whilst in Period 10 (although there is a small peak in its *per mill* value), it is not comparable with that seen in the SFWDM. However, the most important difference lies with the *per mill* values for the *sestertius*. Between Periods 5 and 11, the *sestertius* exhibits far higher values in the IOWDM than the SWFDM. Furthermore, the *sestertius* does not begin to decline in Period 8, but instead peaks in volume, thereafter exhibiting a slower diminution of values throughout the third century AD.

Indeed, the percentage proportion of *sestertii* to other denominations in the Isle of Wight dataset as seen in Figure 83a remains much higher until Period 11 than in the South of the Fosse Way dataset illustrated in Figure 83b. The dominance of the *sestertius* and of bronze denominations in general is also paralleled in eight hoards recovered from the Isle of Wight closing with coins dating to the late second century (see Table 40). Of the eight hoards known, only two contain *denarii* (for Gurnard see Robertson 2000, 59; for Shorwell II see Abdy 2009h) with the hoard from Gurnard comprising contemporary plated copies rather than genuine issues.



a



b

Figure 83: (a) the percentage of each denomination in the Isle of Wight dataset compared with (b) the percentage of each denomination in PAS dataset south of the Fosse Way (SFWDM)

Considering the proximity of Hampshire, the HDM bears very little resemblance to the IOWDM as illustrated in Figure 84 and Figure 85. The *denarius* plays a more dominant role, particularly in Periods 4 (AD and 10 (AD 192-222), where the *per mill* values are more than twice those of the IOWDM. Whilst there is some similarity between the values for the *dupondius* and *as* in each denominational mean, those for the *sestertius* are

far lower in the HDM and represent a much smaller percentage proportion of each denomination in each period. However, the *sestertius* value in the HDM does reach its peak in Period 8 (AD 161-180) like the IOWDM and unlike the PASDM which peaks in Period 7 (AD 138-161).

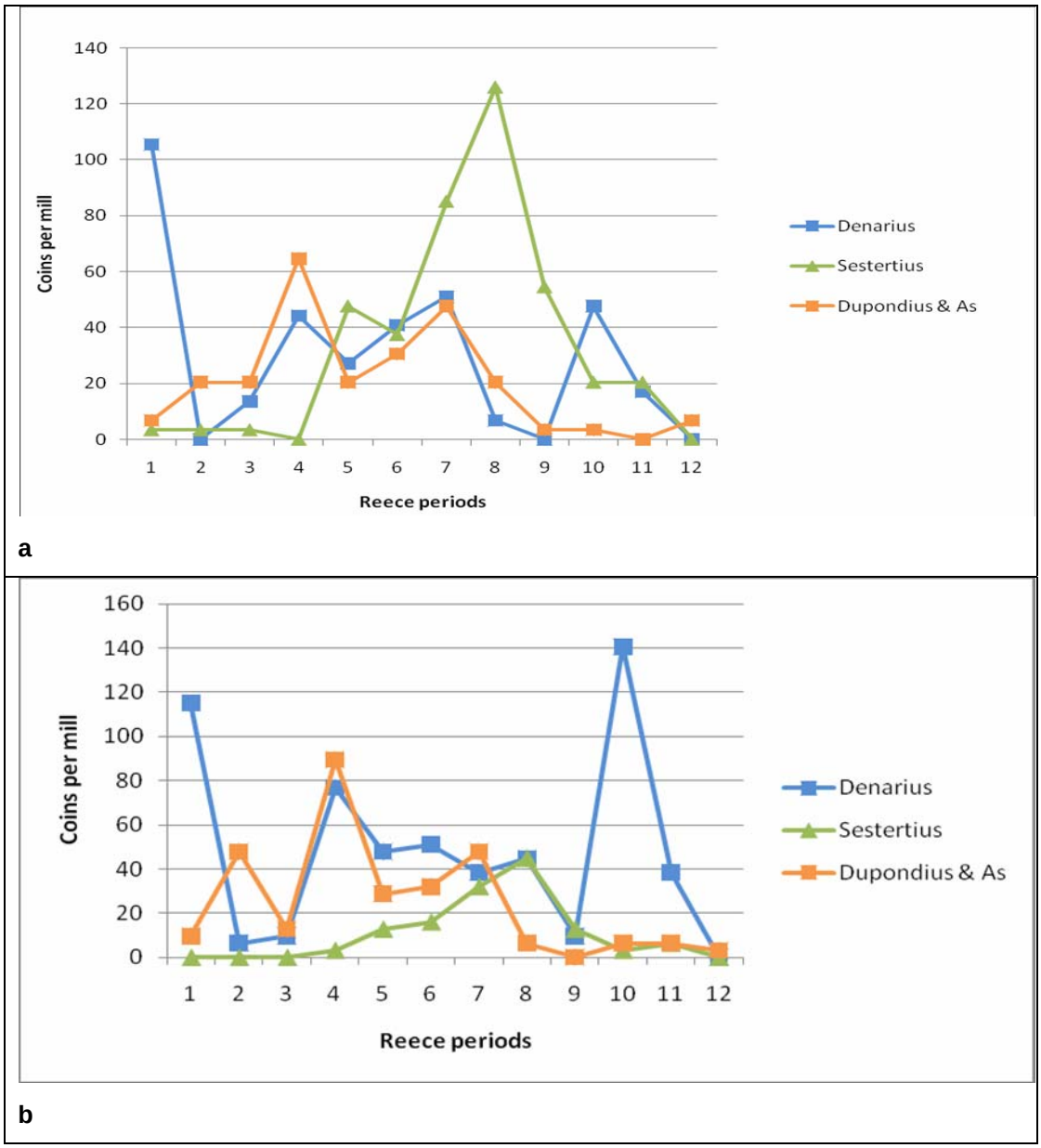


Figure 84: (a) Denominational Mean for the Isle of Wight compared with (b) Denominational mean for Hampshire

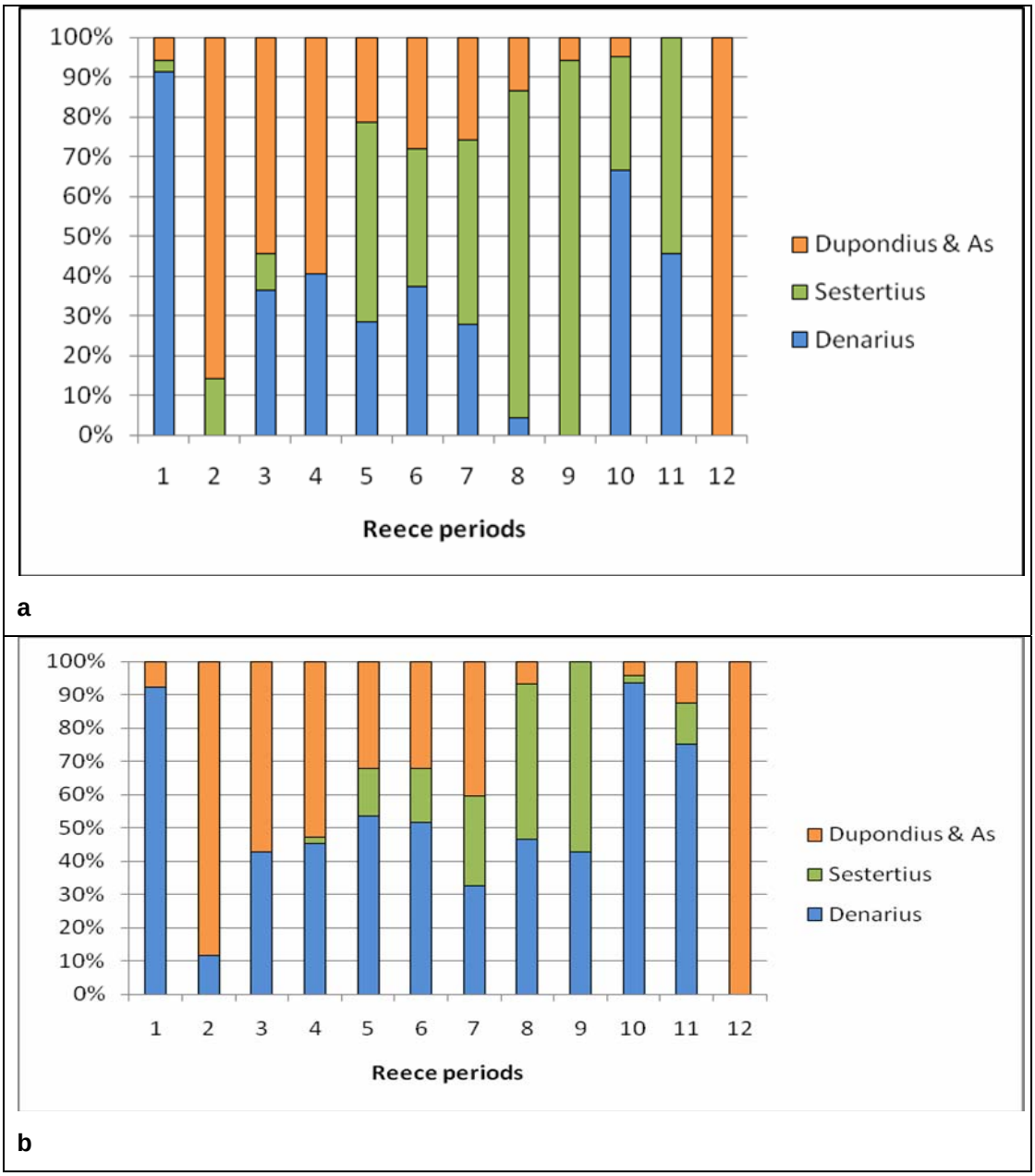


Figure 85: (a) Percentage of each denomination in the Isle of Wight dataset. Compared with (b) the percentage of each denomination in Hampshire dataset

9.5 Incorporating 'as' values

The Isle of Wight dataset also provides the opportunity to calculate separate *per mill* values for the *dupondius* and *as* and to outline how their relationship with each other changes over time. This cannot be attempted using the PAS dataset at a national level, due the large number of worn bronze

denominations classified as '*dupondius* or *as'*. A revised denominational mean for the Isle of Wight is therefore presented in Figure 86a. The proportions of each denomination by Reece period presented in Figure 86b.

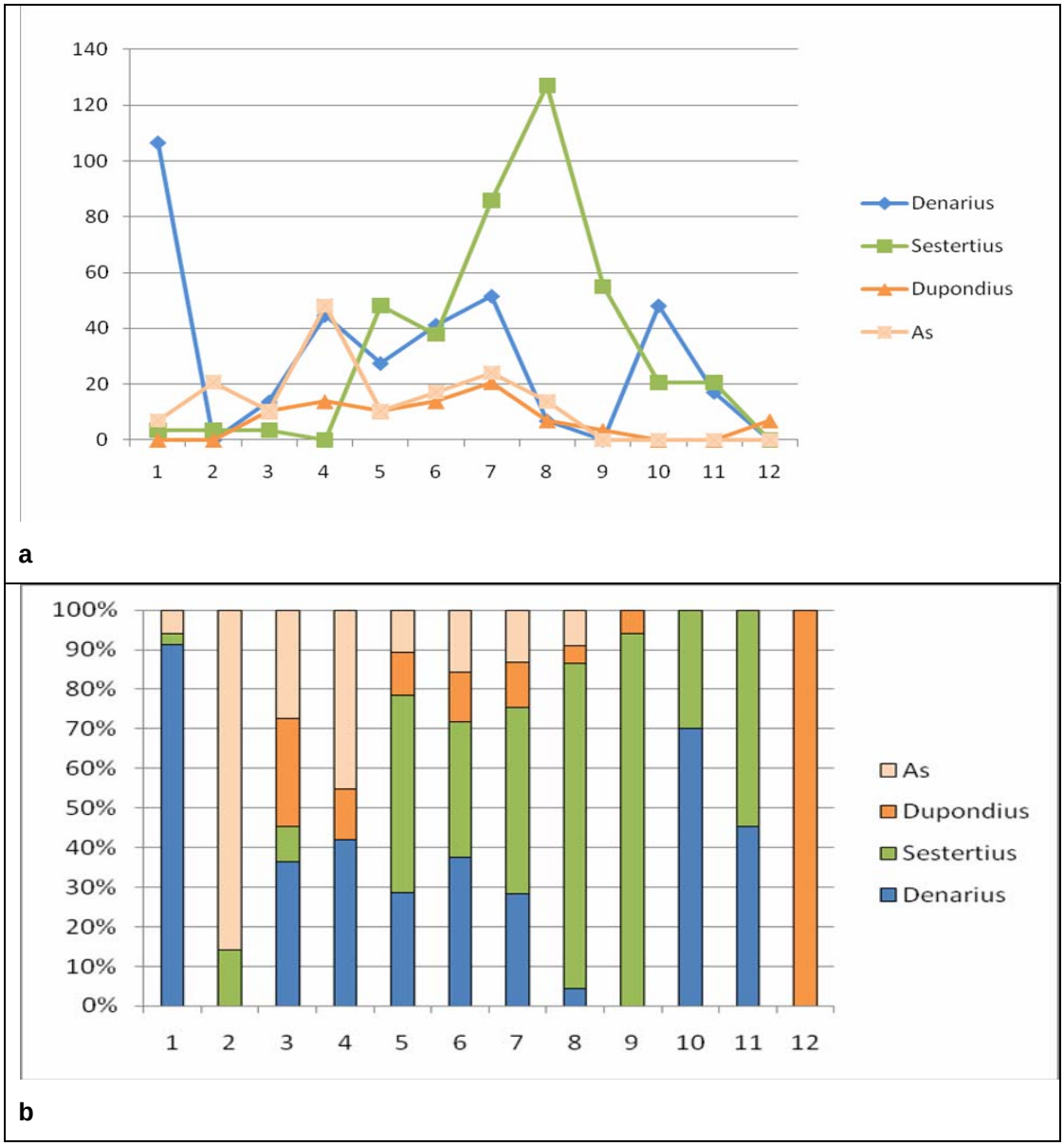


Figure 86: (a) Denominational Mean for the Isle of Wight including *asses* and (b) the percentage of each denomination by Reece period

It is interesting to note that the *dupondius* and *as* exhibit almost identical *per mill* values, except for peaks in the *per mill* values for *asses* in Period 2

followed by larger peak in Period 4. It would be interesting to explore the extent to which this relationship is reflected nationally or is peculiar to the Isle of Wight. Comparison with the coins from Richborough (Reece 1968) demonstrates that peaks in the *per mill* values for *asses* also occur in Periods 2 and 4 (Figure 87a and b). However, the complete dominance of the *as* seen in the *per mill* values at Richborough is not reflected in the values of the IOWDM and makes meaningful comparison of the values in other periods difficult. Unfortunately, the significance of this finding is not clear and more comparative material is needed to explore *as* values in more detail.

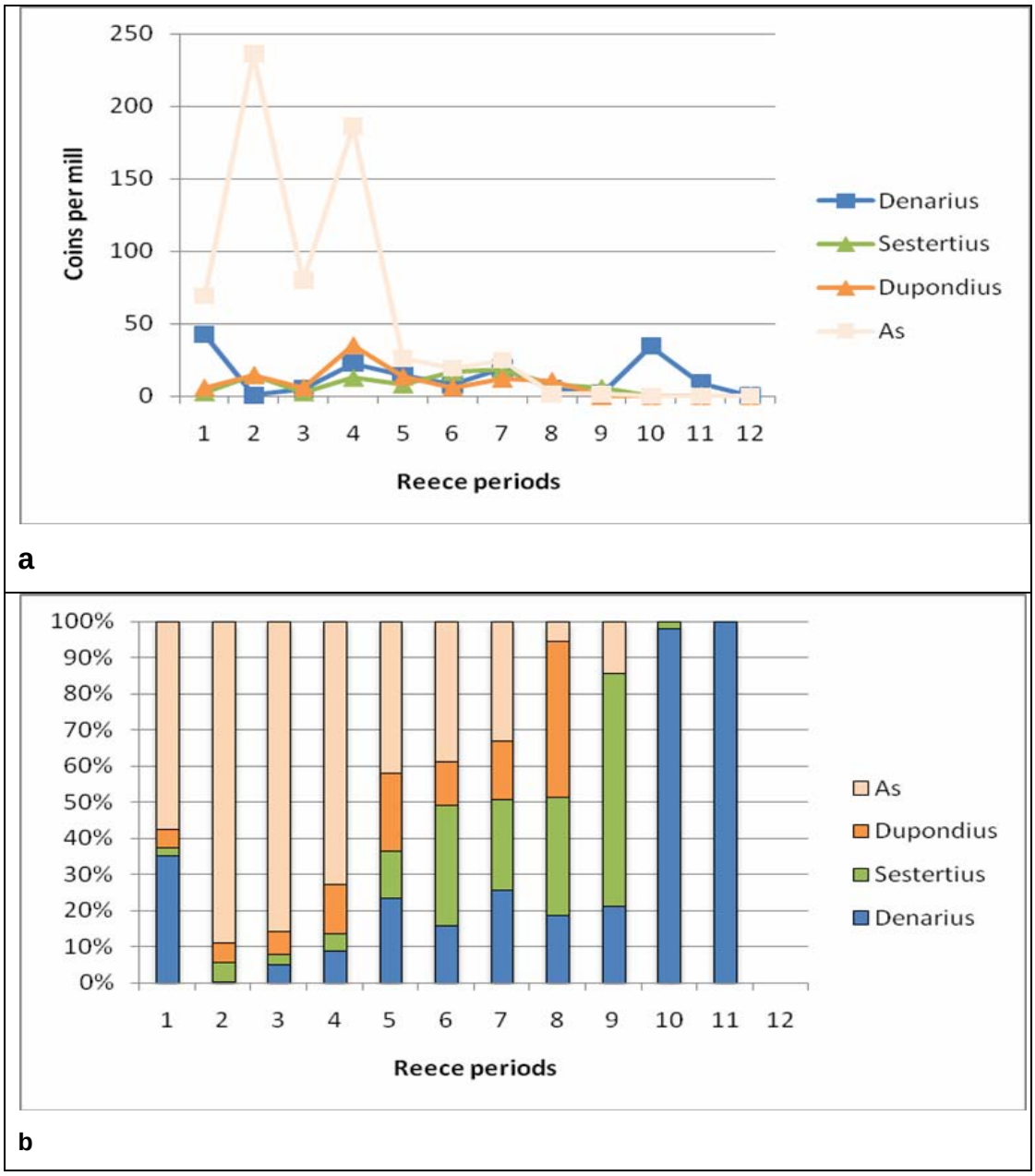


Figure 87: (a) Denominational profile for Richborough (including *asses*) and (b) the proportion of each denomination by Reece period.

9.6 What makes the Isle of Wight so different?

An analysis of the various means calculated for the Isle of Wight has shown that the island exhibits a pattern of coin loss which has little in common either with the rural PAS Mean or regional means. The Isle of Wight cannot therefore be characterised as the low status, agrarian zone assumed by

previous summaries of the archaeology of the island. Indeed, the implication of both the IOWM and IOWDM is that throughout the Roman period there is something different about the supply and use of coinage on the island. However, what creates this difference is difficult to pinpoint and therefore a variety of options must be explored.

9.6.1 Early Roman coin loss: Periods 1 to 9 (pre AD 43-192)

Of particular significance is the emphasis on early and mid Roman coinage, as evidenced in Period 1 (pre AD 43) and Periods 6 to 9 (AD 96-193). Elsewhere in Britain, this emphasis has been regarded as indicative of a substantial military presence in the immediate post-Conquest period or of urban influence (Davies and Gregory 1991, 71; Guest 2008f, 139; Guest 2008g, 55; Lockyear 2000, 403 and 413). However, there are no urban foundations on the island and despite Suetonius' reference to Vespasian's conquest of the island, there is no evidence for a prolonged early military presence. [39] Indeed, no early or mid Roman military equipment has ever been found on the island[40] and the only objects with military associations are three fourth or early fifth century belt fittings recorded by the PAS from the parishes of Newchurch (IOW-438BE2) Newport (IOW-0CB093) and Shalfleet respectively (IOW-9145C4).[41]

It is therefore a possibility that integration into networks of trade and exchange with Gaul and the Mediterranean world in the Late Iron Age and continuing into the first and second centuries could instead be responsible for the pattern of high early coin loss. There is clear evidence that the Isle of Wight was involved in the acquisition of Roman luxury goods from Gaul in

[39] The only possibly military installation on the island is under Carisbrooke Castle and dates to the late Roman period. Its existence is hotly debated. For more on this debate see Young and Mepham 2000, 190 and Tomalin 2002, 55-80.

[40] Tomalin noted six objects with military associations in his catalogue of finds from the island although none of these objects have an exclusive military function (Tomalin 1987, 58)

[41] IOW-438BE2 (Newchurch): Hawkes and Dunning zoomorphic buckle frame; IOW-9145C4 (Shalfleet): Propeller belt fitting.

the mid first century BC (Trott and Tomalin 2003, 161) and the discovery of Tiberio-Claudian tableware at Knighton (which was abandoned by the time of the Claudian Conquest) and Dressel I/Pascal I *amphorae* at Yarmouth Roads attest to continuing trade or exchange in the Augustan period (Trott and Tomalin 2003, 166ff). If coinage was used to facilitate this trade or exchange, there are interesting implications for the study of the function and use of coinage in Late Iron Age Britain.

A short survey of the issue date of each coin within the Period 1 dataset from the Isle of Wight may provide some indication of the chronology of activity. Therefore all Period 1 coins have been assigned to one of 21 subdivisions using the method developed in Chapter 5. A *per mill* value was then calculated for each subdivision. The *per mill* values for each of the Period 1 subdivisions are presented in Figure 88 and summarised in Table 41. The date range for each Period 1 subdivision is also outlined in Table 41.

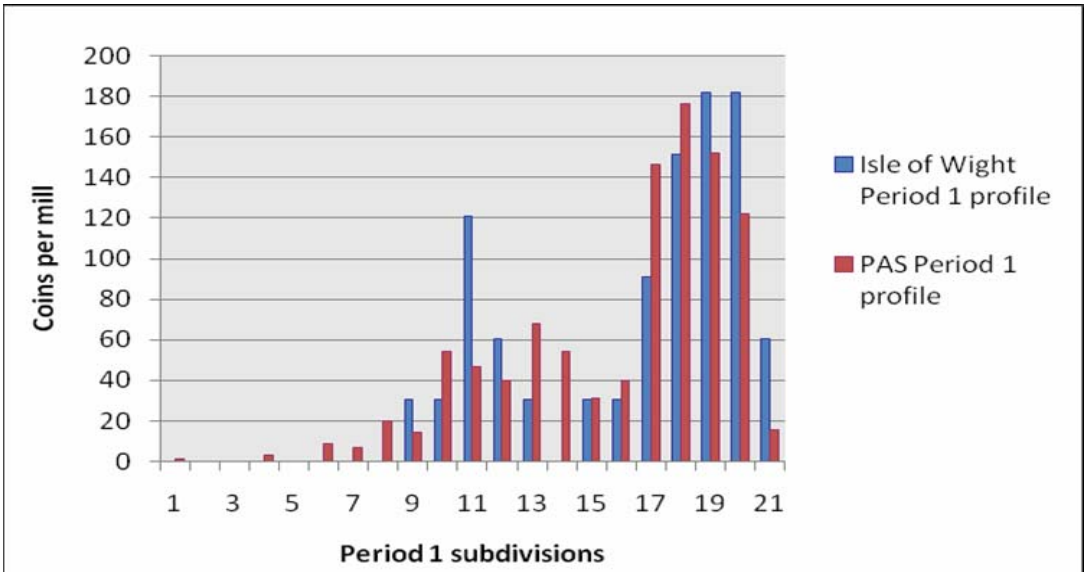


Figure 88: *Per mill* profile for the Isle of Wight and PAS based on Period I sub-divisions.

The earliest Period I coin lost on the island was issued in subdivision 9 (129-120 BC) and issues of most subdivisions are represented thereafter in small numbers. However, two peaks in the numbers of coins lost can be observed. Each peak spans several subdivisions and exhibits values which exceed the mean values for PAS Period 1 coins calculated in Chapter 5. The smaller of the two peaks falls in the subdivisions 11 and 12 (109-90 BC) whilst the larger peak falls within subdivisions 19 to 21 (29 BC to AD 41). The *per mill* values for subdivisions 11 (109-100 BC) and 21 (AD 37-41) are particularly striking, with coins recorded from the Isle of Wight accounting for 12% and 25% of the national dataset for each period respectively. These peaks could reflect chronological periods with the highest levels of cross channel activity.

In saying this, it must be emphasized that the issue dates of Period 1 coins cannot be relied upon to provide a concrete chronology for trade or exchange on the Isle of Wight. Due to the lengthy circulation lives of Period 1 coins and particularly Republican *denarii*, many coins could be post Conquest losses. However, wear analysis of individual coins may provide some indication of the length of time they spent in circulation. Unfortunately, in the case of the Isle of Wight Period I coins, the evidence is not conclusive and cannot be used to date deposition to one or other side of the Roman Conquest. Indeed, although the majority of coins from early subdivisions tend to be more worn than those from later ones, there are exceptions. Two *denarii* with late 2nd century BC issue dates (IOW-713C26 and IOW-1BE055) from the parishes of Calbourne and Shalfleet are relatively unworn suggesting deposition soon after minting and certainly not as late as AD 43, unless they were curated in some way.

It is possible that trade and exchange may also be responsible for the high levels of coin loss exhibited by the IOWM throughout the second century AD, although the products of this trade are much less visible in the

archaeological record. The IOWM exhibits *per mill* values for Periods 4 to 10 which are twice those of the PASM, whilst at the same time, the IOWDM illustrates the increasing importance of the *sestertius*. This culminates in a massive peak in values in the late second century AD (Period 8). Further work is necessary to establish the potential significance of this peak. Chapter 4 suggested that the dominance of particular denominations in an assemblage or geographical area may indicate something of the function of the area or the dominant activity taking place there. It is therefore possible that a particular type or class of activity taking place on the island in the late second century demanded large quantities of *sestertii* over all other denominations.

9.6.2 Late third century coin loss: Period 13 and 14 issues (AD 260-296)

The late third century AD represents a further phase in the history of the Isle of Wight where the pattern of coin loss marks out the island as being notably different. Whilst four hoards (Freshwater I; Ventnor I; Bowcombe and Yarmouth) are known from the island which close with *radiates* dating to the years AD 260 to 296 (Abdy 2003b; Bland, Cepas and Tosdevin 1997, 264-278; Robertson 2000, 143), very few coins of the period have been recorded as site finds by the PAS. Indeed, Period 13 and 14 issues account for only 11.8% of the Isle of Wight parish dataset in contrast with a figure of 22.5% for the PAS dataset and 23.4% for the comparative dataset nationally.

It has been suggested that a higher proportion of late third century coin loss (Period 13 and 14) when compared with mid to late fourth century coin loss (AD 330-402) is indicative of urban activity and the reverse, of rural activity (Reece 1972; 1988a). The almost complete absence of *radiates* on an island without towns is not altogether surprising. Perhaps more interesting is the fact that barbarous *radiates* account for only a small proportion of Period 14 coins and have been recorded in only two parishes, Gatcombe and Shalfleet. Barbarous *radiates* account for only 31% of all Period 14 coins

recorded, in contrast to the national figure of 54%. It appears that whatever function barbarous *radiates* served, they were either not needed in quantity on the island or were deliberately excluded from circulation. Interestingly, copies of Severan *denarii* are not found on the island either. Although it is impossible to account conclusively for this phenomenon, it may be that a lack of third century copying represents evidence for the official regulation of coinage supplied to the island. Alternatively, demand for coins (for whatever function they served) may have been low and therefore there was no need for copying to take place.

9.6.3 Late Roman coin loss: eastern and central mintmarks (AD 306-402)

Throughout the fourth century AD, the *per mill* values for coin loss on the Isle of Wight are consistently lower than those of both the PASM and HM, with the exception of Periods 15 and 16. This is interesting in itself as it provides another illustration of the extent to which the Isle of Wight is different in a national and regional context. However, within this pattern of fourth century coin loss there are two specific points worthy of further analysis: the proportion of coins from 'exotic' mints and the small quantity of Theodosian coinage recorded by the PAS when compared with hoard evidence.

Attention was first drawn to stray finds of Greek coins and third century Alexandrian issues on the island by Sydenham. He argued that they were accepted as small change within the local monetary economy (Sydenham 1943, 388). However, as these finds were few and far between little consideration was given as to why or how such coins arrived on the island. The PAS dataset of fourth century *nummi*, however, provides the opportunity to investigate the proportion of coins from eastern and central Mediterranean mints more fully.

A total of 38 fourth century coins from eastern and central Mediterranean mints have been recorded by the PAS on the Isle of Wight, accounting for 3.8% of the total dataset. Whilst the coins represent only a very small percentage of the overall assemblage from the island, it is significant when the figure is compared with the percentages of eastern and central Mediterranean mint products recorded by the PAS nationally and in the neighbouring county of Hampshire which stand at 1.5% and 1% respectively. Indeed, with the exception of the mint of Constantinople[42] and Antioch, the percentage of coins from each mint is higher in the Isle of Wight dataset than in either comparative source as Figure 89 and Table 43 illustrate. This again highlights the individuality of coin loss patterns for the Isle of Wight and suggests higher levels of direct or indirect contact with the Mediterranean than other areas of *Britannia*.[43]

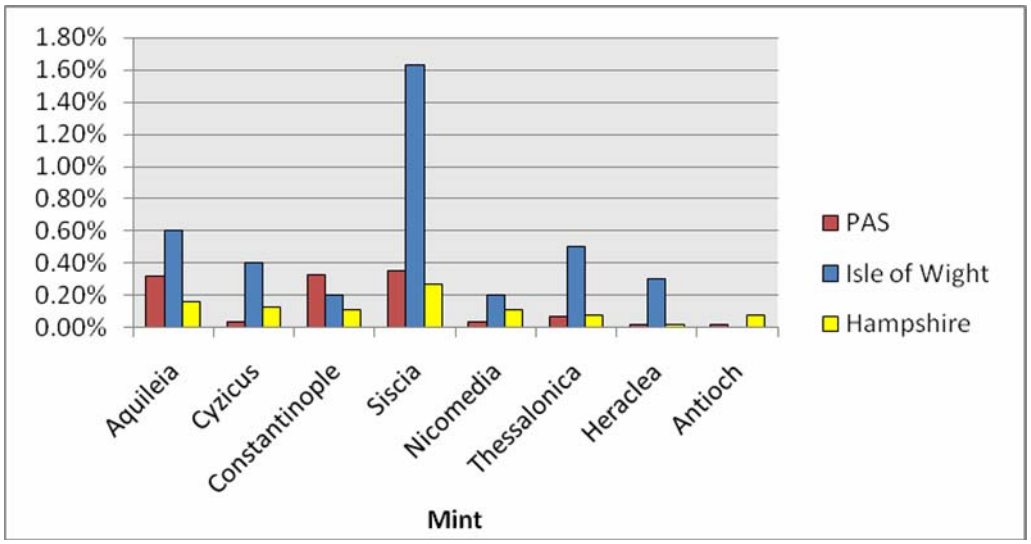


Figure 89: Percentage of coins from eastern and central Mediterranean mints in the PAS, Isle of Wight and Hampshire datasets

[42] The figure for Constantinople needs to be considered with care. It is likely to include coins from the mint of Constantia (Arles) which have been misidentified by Finds Liaison Officers as being from the mint of Constantinople.

[43] Above average numbers of coins from eastern and central Mediterranean mints have recently been recorded from the parish of Hayle, Cornwall. Of a total of 40 coins, 7 (17.5%) are from eastern and central Mediterranean mints. The coastal location of these finds reinforces the argument that trade and exchange is responsible for their presence.

The geographical distribution of coins from eastern and central Mediterranean mints illustrated in Figure 90 is also interesting. Whilst it may indicate that the Isle of Wight played a role in direct trade with the Mediterranean in addition to that channelled through Gaul, the majority of coins are found at inland locations rather than coastal ones. It is probable that most examples arrived on the island via the Solent and riverine estuaries on the north coast, due to the lack of safe anchorages on the southern side of the island (Trott and Tomalin 2003, 158). However, the use of chines to temporarily beach ships cannot be discounted. There are clear concentrations at two sites within the parishes of Shalfleet and Brighstone, with 21 out of the 38 fourth century coins located within these parishes. Interestingly, the only ‘exotic’ coins of the early and mid Roman period recorded by the PAS on the island are also from Shalfleet and Brighstone. These include a Carthaginian bronze unit (IOW-A94C87) from Shalfleet and a Roman provincial copper alloy coin of Geta (IOW-E6A925) from Brighstone perhaps suggesting a long continuity of activity in these areas.

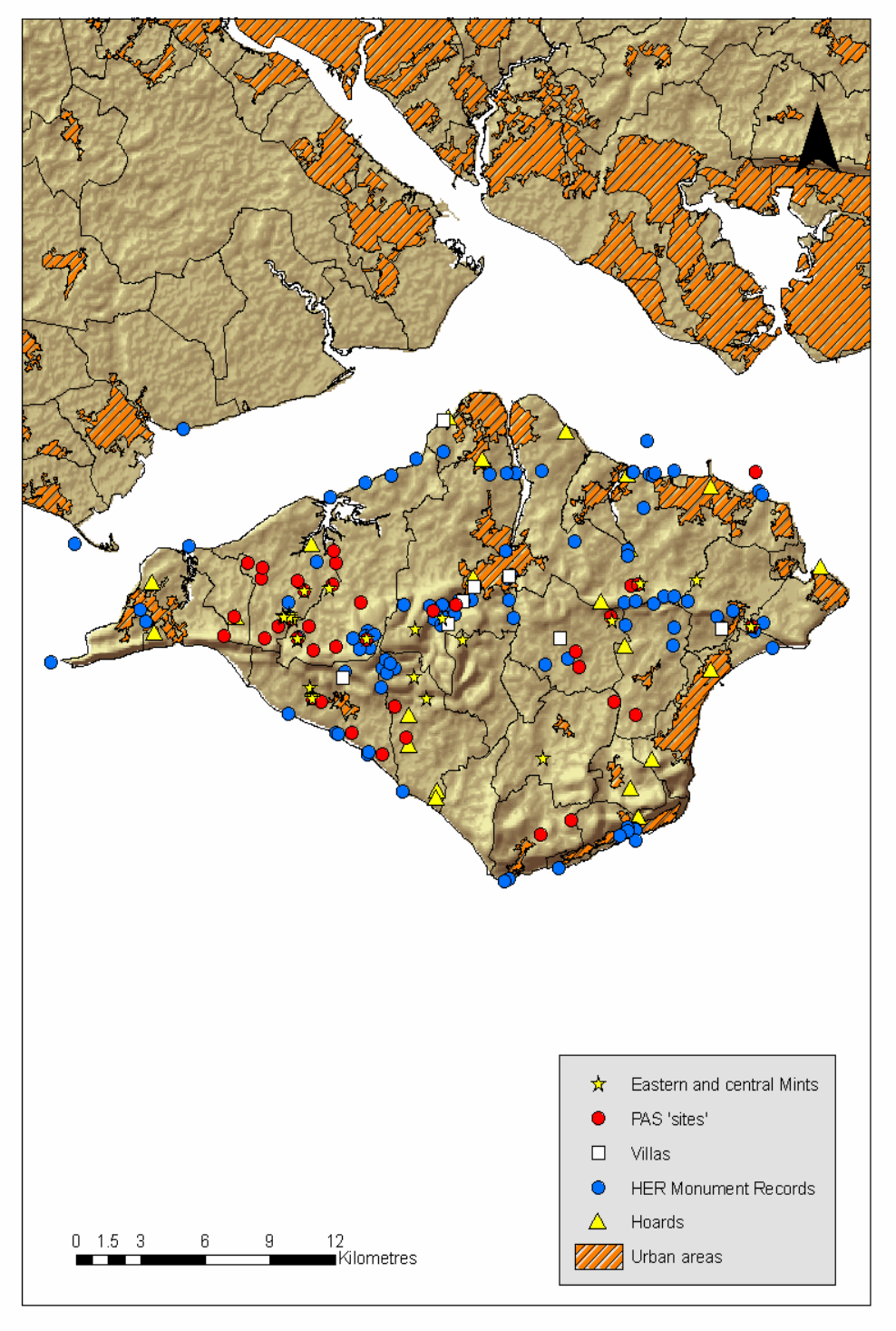


Figure 90: The distribution of issues from eastern and central Mints

9.6.4 Late Roman coin losses: Period 21 issues (AD 388-402)

Only nine Period 21 coins have been recorded on the Isle of Wight as PAS site finds. Of these, five are *siliquae* whilst the remainder are copper alloy *nummi.* At a regional and national level, this small total of coins is not at all unusual. Indeed, of all Reece periods, the *per mill* value for Period 21 in the IOWM is closest to those of both the PASM and HM. However, what is striking is the difference between the volume, character and distribution of circulating coinage presented by the PAS data and that shown by hoards. Indeed, eleven hoards closing with Period 21 coins are known from the Isle of Wight. In contrast to the site finds which cluster in central and west Wight, the majority of hoards cluster on the eastern side of the island (Figure 91). Eight comprise *nummi* (72%) and only three (27%) *siliquae* or *solidi*. When compared with the proportions of *nummus* and *siliqua* hoards recorded nationally, it is apparent that there are more *nummus* hoards recorded for the island than the average.[44]

It has been suggested through an examination of hoard evidence that the 'Theodosian coinage in circulation on the Isle of Wight was acquired through trade contacts with both mainland Britain and the Continent' rather than being the result of a late military presence (Lyne 2008*)*. However, if this is the case, it is not clear why the volume of *nummi* seen in hoards is not reflected in the evidence of site finds and a military link should not necessarily be discounted. Indeed, there are striking parallels with the coin record for the fort at Richborough, Kent where more than 22,822 Period 21 *nummi* have been recovered (Reece 1968; Reece 1991b, 27).

It is also possible that a post Roman date should be sought for the majority of base metal coin hoards on the island. Sydenham noted the levels of wear on coins in Theodosian hoards and concluded that 'none of these hoards

[44] These figures were calculated using hoards recorded by Robertson (Robertson 2000, 361-403 & 407-41) for the reigns of Eugenius, Arcadius and Honorius, as well as those described as 'Theodosian'. 7 hoards of *solidi* are known; 54 hoards of *siliquae*; 81 of *nummi*; 7 of *siliquae* and *nummi* and 3 of *solidi* and *siliquae*.

could have been buried till long after the coins were issued' (Sydenham 1943, 387). Whilst wear analysis cannot be relied upon, the hoards might therefore represent the discard, ritual or otherwise, of obsolete bronze coinage in the early to mid fifth century AD.

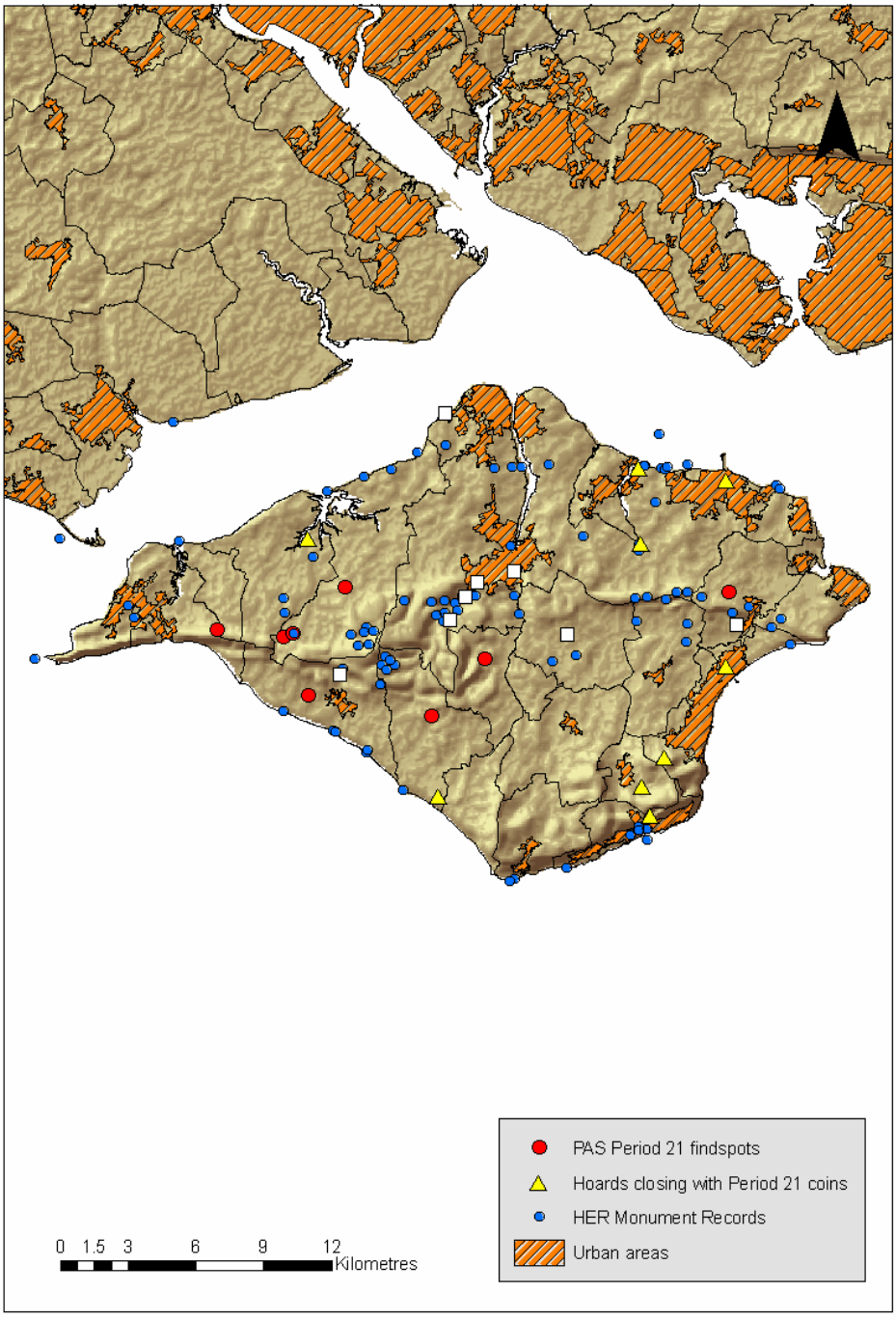


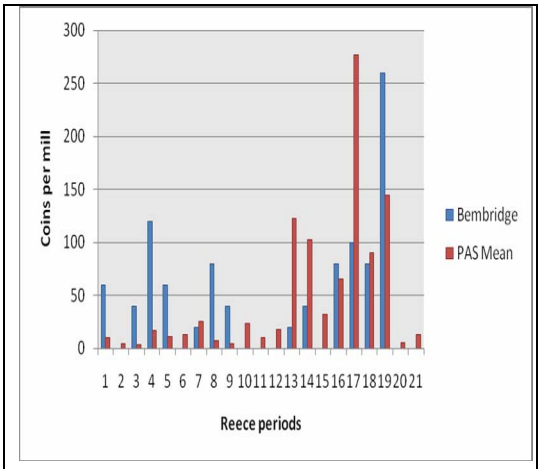
Figure 91: Distribution of Period 21 coins and hoards.

9.7 Comparing parish profiles on the Isle of Wight

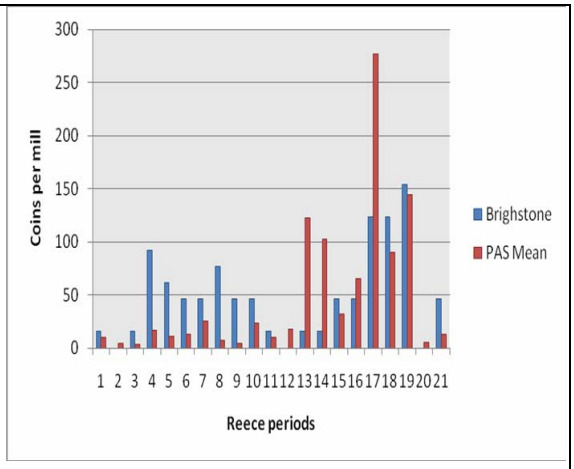
The calculation of a variety of mean values for the Isle of Wight has facilitated comparison of its pattern of coin loss with both national and regional backgrounds and has both established and emphasised its individual identity. However, treating the island as a single zone obscures sub-regional variations in patterns of coin loss. For this reason, an investigation of coin loss profiles for individual parishes has been attempted.

Of the 21 parishes with coins recorded, only nine parishes have assemblages of 20 or more coins that can be assigned to Reece periods. A tenth parish, Godshill, which has an assemblage of 18 coins has also been included in analysis. Figure 79 highlights the geographical distribution of these parishes. *Per mill* profiles for each parish have been calculated to allow meaningful comparison of the assemblages with each other and the PASM. These are summarised in Table 44.

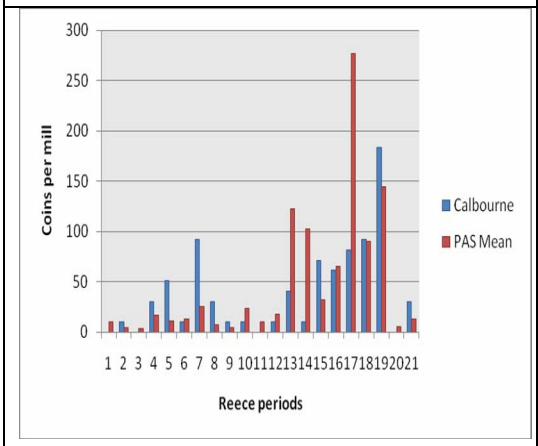
Each parish has been allocated through visual comparison to one of four groups on the basis of its *per mill* profile. The largest group comprises the six parishes of Bembridge, Brighstone, Calbourne, Godshill, Niton and Whitwell and Shorwell as illustrated in Figure 92. Despite the similarity in their profiles, there is no geographical unity in their distribution which suggests that the pattern of coin loss is not dictated by geography. These parishes exhibit consistently high levels of coin loss during the first and second centuries with a particular peak occurring between Period 7 and 9 (AD 138-192). There is then a hiatus in coin loss during the third century AD (Periods 11 to 14) before a small resurgence during the fourth century AD.



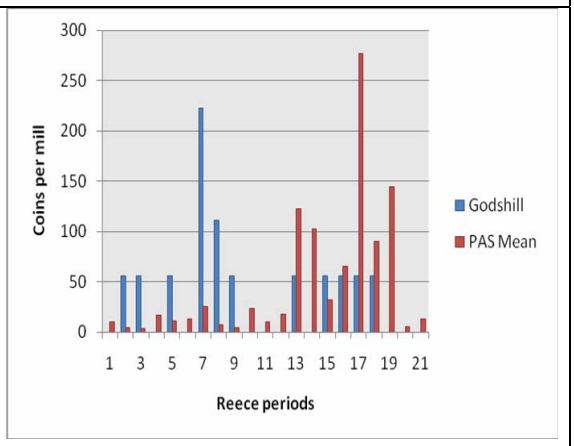
Bembridge



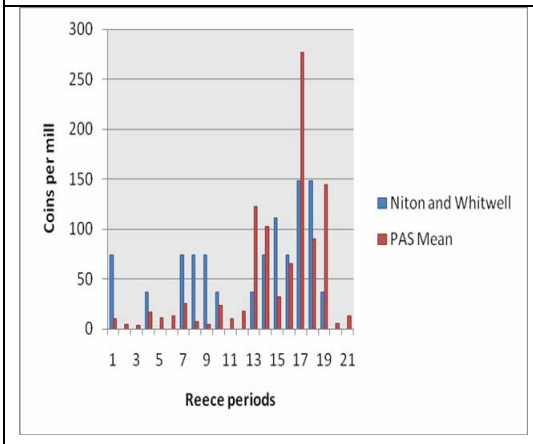
Brighstone



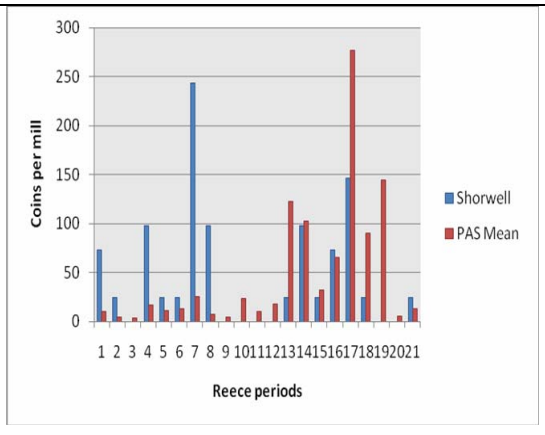
Calbourne



Godshill



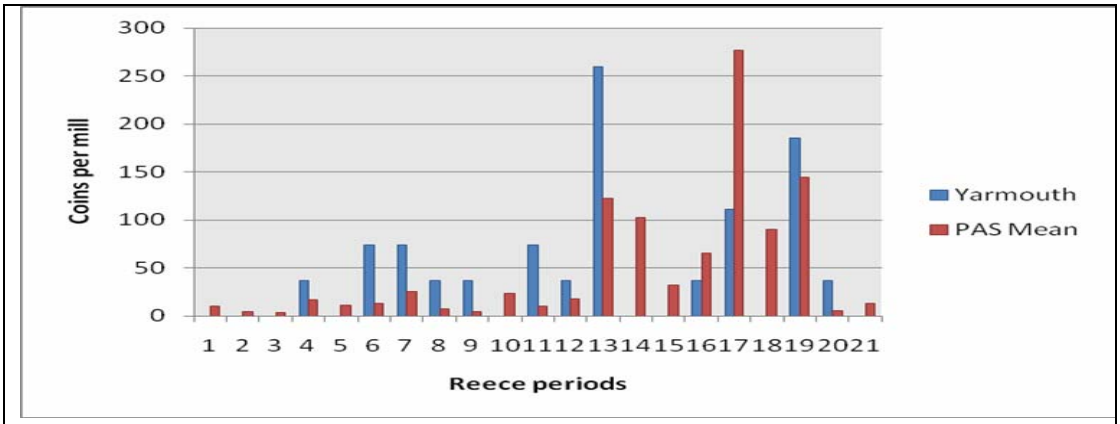
Niton and Whitwell



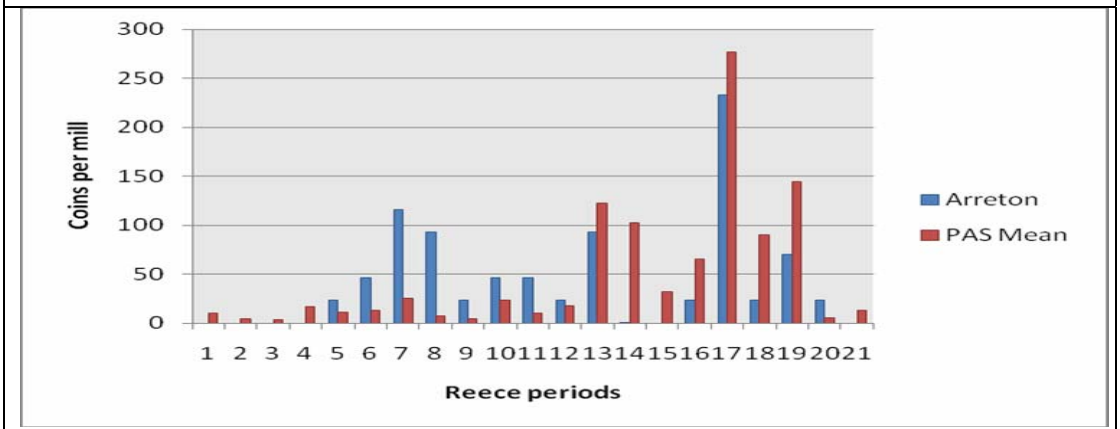
Shorwell

Figure 92: Six parishes with similar coin profiles

The second group comprises the parishes of Yarmouth and Arreton (Figure 93). In contrast to the group discussed above, these parishes exhibit very little first century coin loss with the earliest issues recorded dating to either Period 4 (AD 69-79) or Period 5 (AD 98-117). Nor do these parishes experience an hiatus in coin loss in the late third century AD. Indeed, Yarmouth exhibits a particularly high value for Period 13 coin loss whilst the *per mill* values for Period 13 and 14 at Arreton are close to those of the PASM. A hiatus comes instead in Period 14 and 15 (AD 275-296). However, in common with the group discussed above, Yarmouth and Arreton show above average *per mill* values throughout the mid to late second century including the peaks between Period 6 and 9 (AD 117-192).



Yarmouth



Arreton

Figure 93: Yarmouth and Arreton parish profiles compared with PASM.

The third group comprises a single parish, that of Shalfleet. It has a *per mill* profile which is not comparable with any other parish on the Isle of Wight. The profile exhibits coin loss throughout the Roman period (Figure 94). There is no obvious decline in levels of coin loss in the third century AD, with coin loss continuing even in Periods 13 and 14.

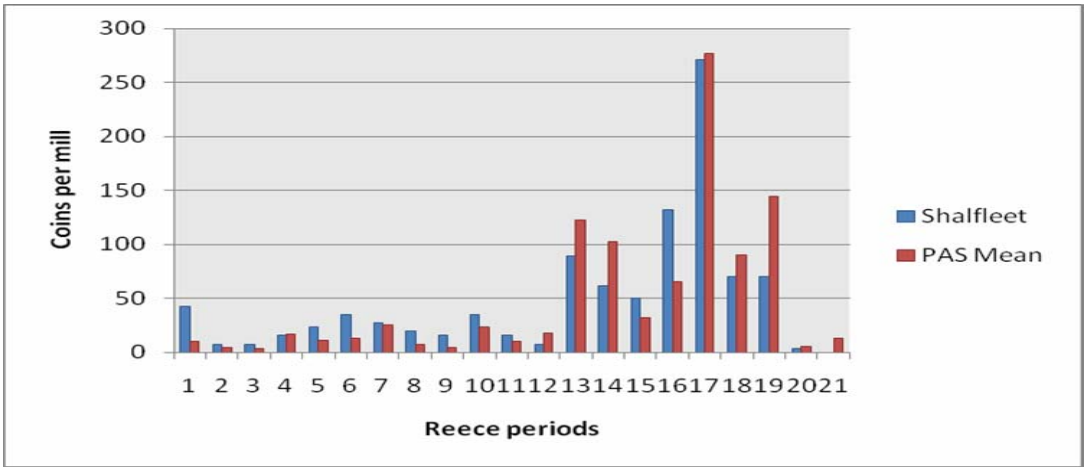


Figure 94: Shalfleet parish profile compared with the PASM.

The parish of Freshwater has also been allocated its own group, as unlike other parishes on the island, its coin loss profile is almost exclusively late Roman in emphasis as Figure 95 illustrates. Indeed, with the exception of a single Period 6 issue, it exhibits no coin loss before Period 11 (AD 222 to 238). Instead, it has particularly high values for the early and late fourth century AD (Periods 15 and 16; Period 18 to 21) Between Periods 18 and 21 it is particularly strong, possessing values which surpass those of the PASM.

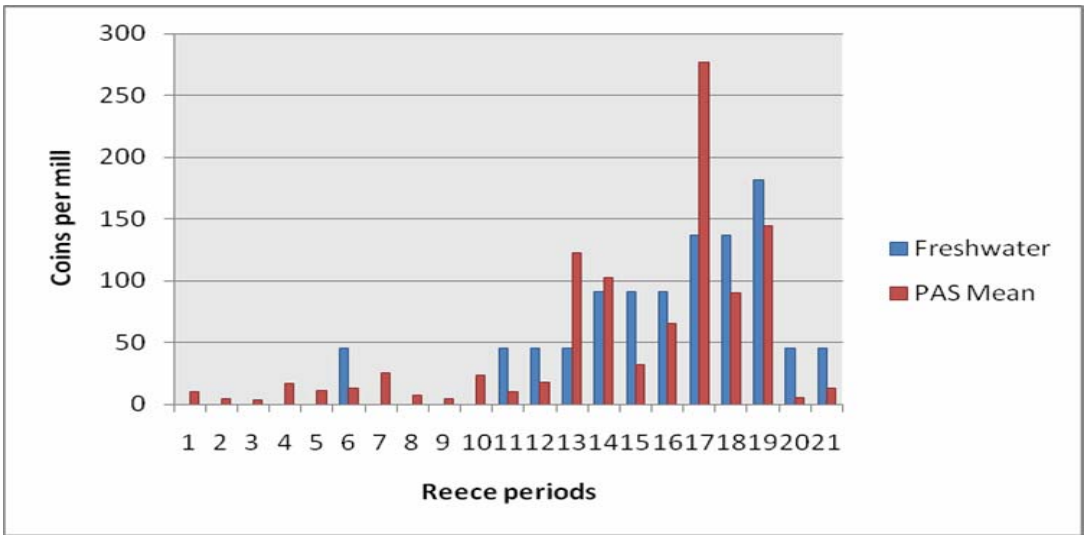


Figure 95: Freshwater parish profile compared with the PASM

9.8 Identifying 'sites' on the Isle of Wight

An analysis of the coin loss profiles from individual parishes has illustrated that there is some sub-regional variation in coin loss. Therefore, a more detailed study of the distribution of coins recorded by the PAS within each parish is desirable to identify the individual 'sites' which create this variation. It is acknowledged that what constitutes a 'site' exercises much debate amongst archaeologists (Mattingly 2000, 6). In this context, a 'site' has been defined as a cluster of five or more coins located within 200 metres of each other. This definition is one commonly applied by Historic Environment Records to identify sites and artefact scatters (Payne *per comm.;* Poppy *pers. comm.*). Whilst a relationship between surface scatters and stratified archaeology cannot be assumed (Haselgrove 1985, 9) and some surface scatters may represent dispersed hoards, this approach is likely to give some indication of the date and extent of Roman coin using activity in a particular area.

38 'sites' with five or more coins have been identified on the Isle of Wight using this methodology. The largest 'site' identified has a total of 127 coins (Shalfleet Site C) although the mean size of a site assemblage on the island

is 19 coins. The geographical distribution of these sites in comparison to the known Roman archaeology of the island is illustrated in Figure 96 and a summary of the coins recorded for each site by Reece period is provided in Table 45 to Table 47. Non-numismatic finds' data recorded by the PAS from all 'sites' is summarised in Table 48.

Whilst PAS 'sites' have been identified throughout the island, there are clear concentrations in west Wight, particularly on the limestone plateau situated in the parish of Shalfleet and to a lesser extent, skirting the chalk ridge that runs from east to west across the middle of the island. These western concentrations may in part reflect the distribution of Romano-British settlement activity, but they are also likely to be the result of the more intensive metal detecting in west Wight discussed above. However, even with these biases, the southern distribution of so many 'sites' is interesting. Indeed, with the exception of a single 'site' located in the intertidal zone in north west Wight, there are very few 'sites' located on the Tertiary Clays of the northern half of the island, despite the presence of stray finds and hoards. This distribution conforms with the existing interpretation of Roman settlement pattern for the island which 'seems to show a Roman population settled mainly in the southern half of the Island on the chalk downland and in the fertile Greensand vale' (Tomalin 1987, 12).

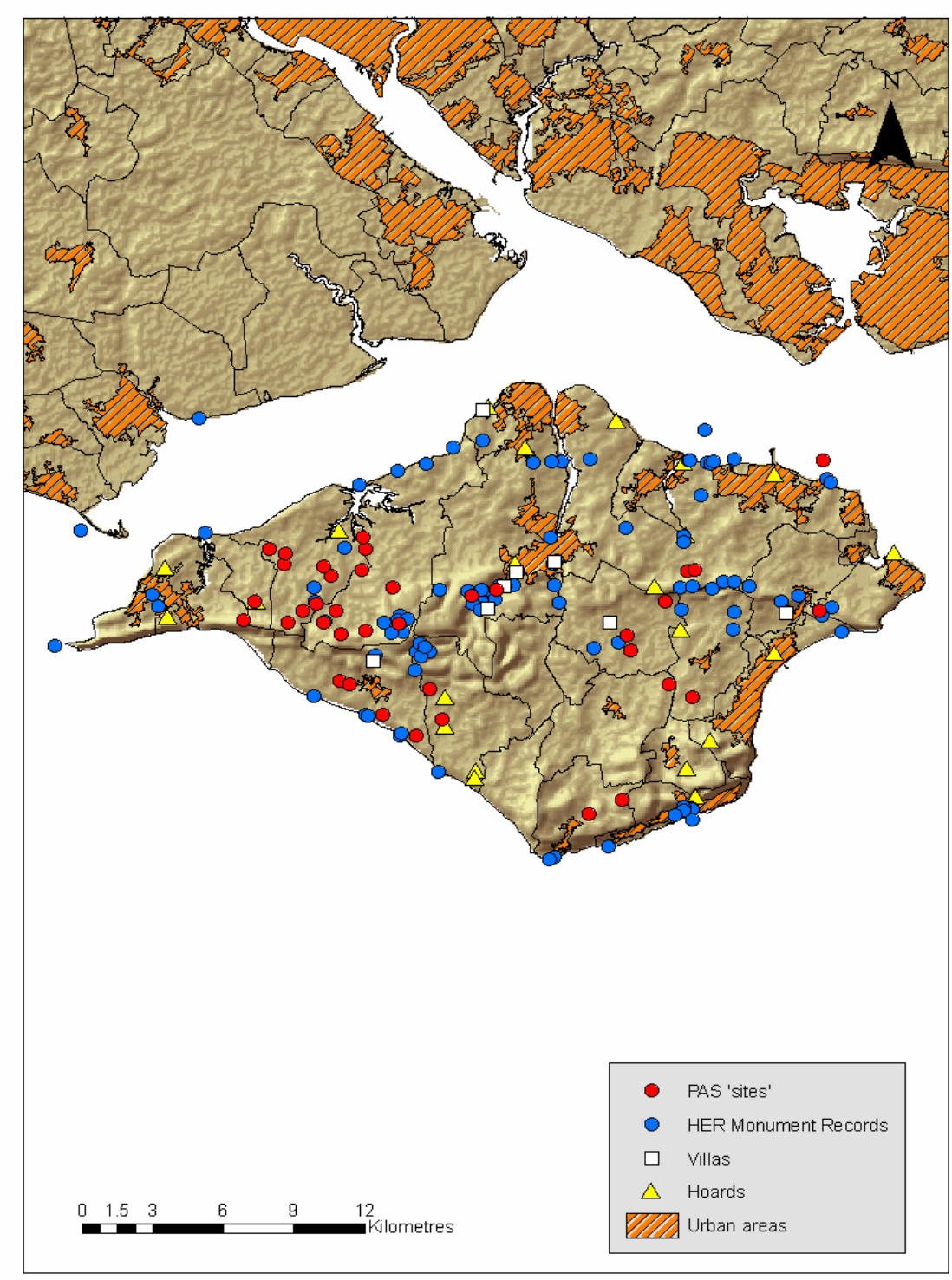


Figure 96: The distribution of PAS 'sites' and HER monuments

Although the distribution of PAS ‘sites’ generally confirms current ideas regarding Romano-British settlement pattern on the Isle of Wight, their

identification has augmented the number of Roman sites known quite substantially.[45] Indeed, in only four instances is a PAS 'site' located within a 200 metre radius of a Monument Record for Roman archaeology created by the HER. Of these Monument Records, three are classified as 'Artefact Scatters' and are duplications of PAS data.[46] The other monument record (MIW11963) connects Calbourne Site B with a series of prehistoric and Romano-British field boundaries (MIW11963).

However, three further PAS 'sites' are located within the wider landscape of Roman activity, recorded by the HER. The first, SW of Newport Site A is located within 800 metres of three HER monument records (MIW458, MIW1418 and MIW12070) which relate to Late Iron Age and early Roman occupation, the poorly understood complex of Roman buildings known at Bowcombe Farm (Tomalin 1987, 11) and a Romano-British field system. The *per mill* profile for SW of Newport Site A calculated using a total of 35 coins is presented in Figure 97 and provides additional dating evidence for activity in the Bowcombe valley.

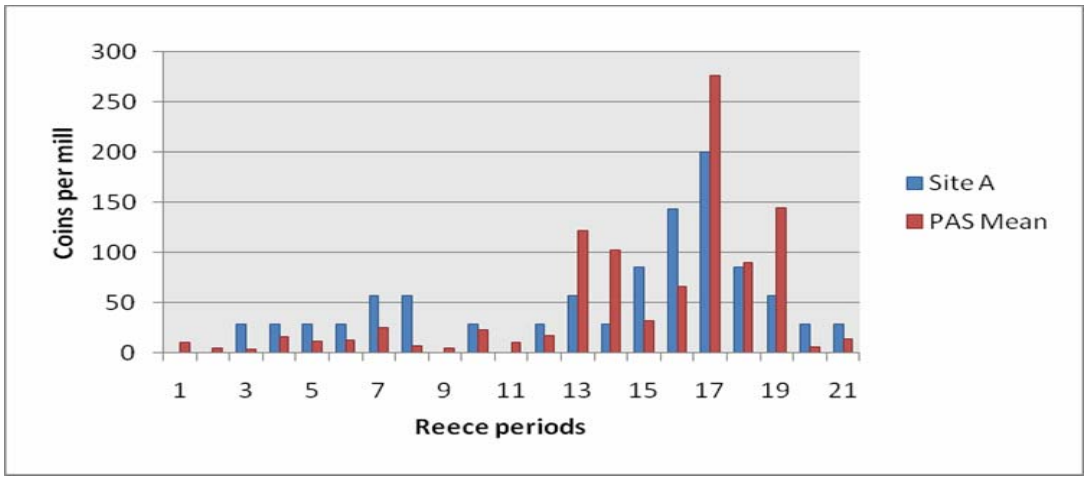


Figure 97: *Per mill* profile for SW of Newport Site A

[45] This may be because the majority of known Roman sites are Scheduled Monuments where no metal detecting is allowed.
[46] Shalfleet Site C: MIW6716; Calbourne Site A: MIW6736; SW Newport Site B: MIW1519.

Similarly SW Newport Site B is located less than 300 metres from Clatterford villa (MIW495) and Bembridge Site A within 325 metres of Yaverland Iron Age and Romano-British rural settlement (MIW4868).

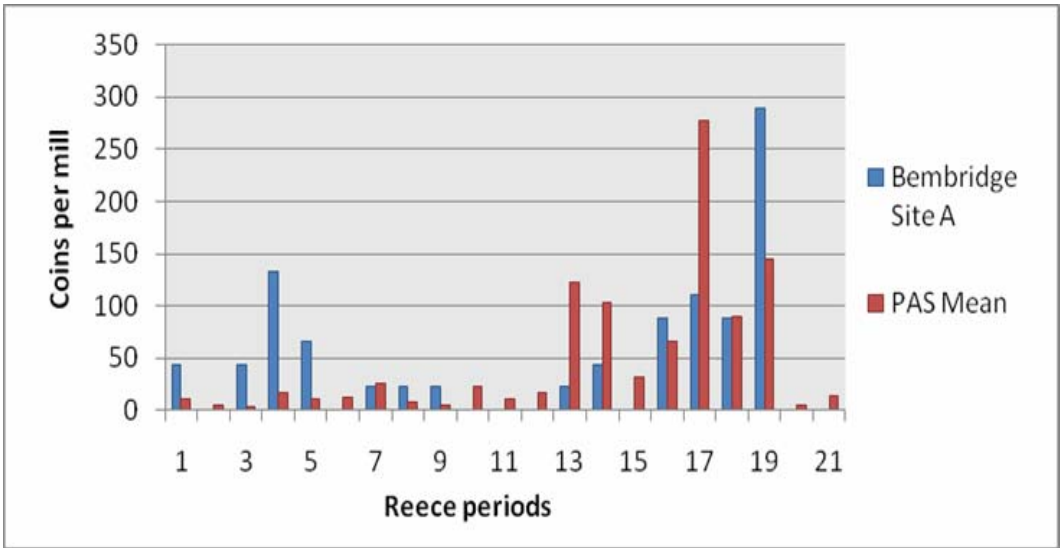


Figure 98: *Per mill* profile for Bembridge Site A

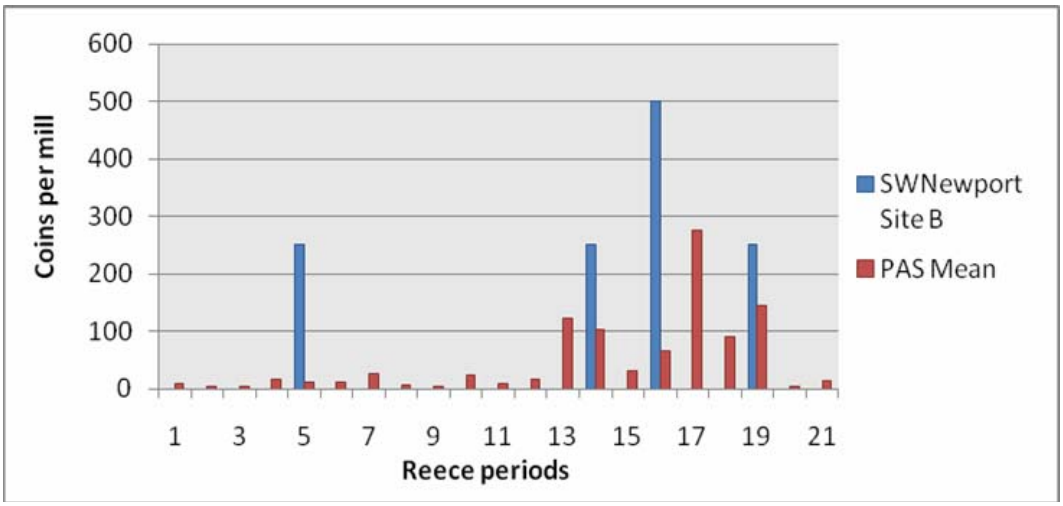


Figure 99: *Per mill* profile for SW Newport Site B

A comparison of the distribution of PAS 'sites' with the location of the 25 hoards known from the island is also illuminating. Unlike the PAS 'sites', the

hoards tend to be situated in coastal or riverine locations and only three are located within 200 metres of a PAS 'site'. In all three cases, the end date of the hoard and the emphasis of the coin loss profile of the PAS 'site' are similar. This may indicate concurrent settlement and hoarding activity although it also raises the possibility that some PAS 'sites' may represent dispersed hoards or *addenda* to existing hoards.[47] It is also striking that in the three parishes with the largest numbers of PAS 'sites' (Shalfleet, Calbourne and Brighstone) only one hoard has been discovered (Lyne and Abdy 2004). Its late Roman date and location more than 1km from the nearest PAS 'site' makes any relationship unlikely. This may suggest that at least on the Isle of Wight, hoards were deposited, more often than not, away from settlement foci.

9.9 The distribution of PAS 'sites' in west Wight

Although desirable, an investigation of every PAS site identified is outside the scope of this chapter. Instead, analysis will concentrate on coin loss profiles from the PAS 'sites' identified in the three adjacent parishes of Shalfleet, Calbourne and Brighstone in west Wight and their relationship with the known Romano-British archaeology of the area. The three parishes will be considered as a single zone, despite the obvious differences in their geology and landscape.

The distribution of all coins recorded from the three parishes is presented in Figure 100. In Shalfleet and Calbourne, there is little coin loss along the coast or on the low lying land surrounding the Newtown river estuary, despite Roman activity being recorded here by the HER (MIW6138; MIW 6818; MIW7475; MIW565) Instead, it clusters towards the south of each

[47] Shorwell I closes with bronze Period 4 issues whilst Shorwell Site A comprises 10 coins ranging in date from Period 1 to 8 and includes three Period 4 issues. The Bowcombe hoard closes with Period 14 *radiates* whilst SW Newport A comprises 35 coins and exhibits coin loss throughout the Roman period including the late third century AD. The Yarmouth hoard closes with Period 14 issues whilst Yarmouth Site A comprises 13 coins ranging in date from Period 12 to 19.

parish either on the limestone plateau or flanking the base of the chalk ridge running from east to west across the island. This chalk ridge also physically creates a boundary between northern and southern Wight and more specifically between Brighstone and the parishes of Shalfleet and Calbourne. Indeed, the landscape of Brighstone parish is very different to that of the northern parishes, comprising part of the chalk ridge, a coastal plain and sea cliffs pierced by chines (steep sided river valleys where rivers flow, through the coastal cliffs, into the sea). Unlike the situation in the parishes of Shalfleet and Calbourne, coin losses are not clustered along the base of the chalk ridge, although a *villa* (MIW276) is known in this area. Instead coins are scattered throughout the coastal plain.

A total of 20 ‘sites’ ranging in size from clusters of five coins to concentrations of 127 coins have been identified within the three parishes. Shalfleet parish has nine ‘sites’ whilst Calbourne and Brighstone have eight and three respectively. The distribution of the ‘sites’ in each parish is illustrated in Figure 101. In the same way as the PAS parishes, these ‘sites’ can be assigned to one of four chronological groups on the basis of their *per mill* profiles. As some ‘sites’ possess assemblages of only five coins, conclusions based on their *per mill* profiles must remain tentative with only the ‘site’ assemblages with 20 or more coins bearing effective comparison with the PASM.

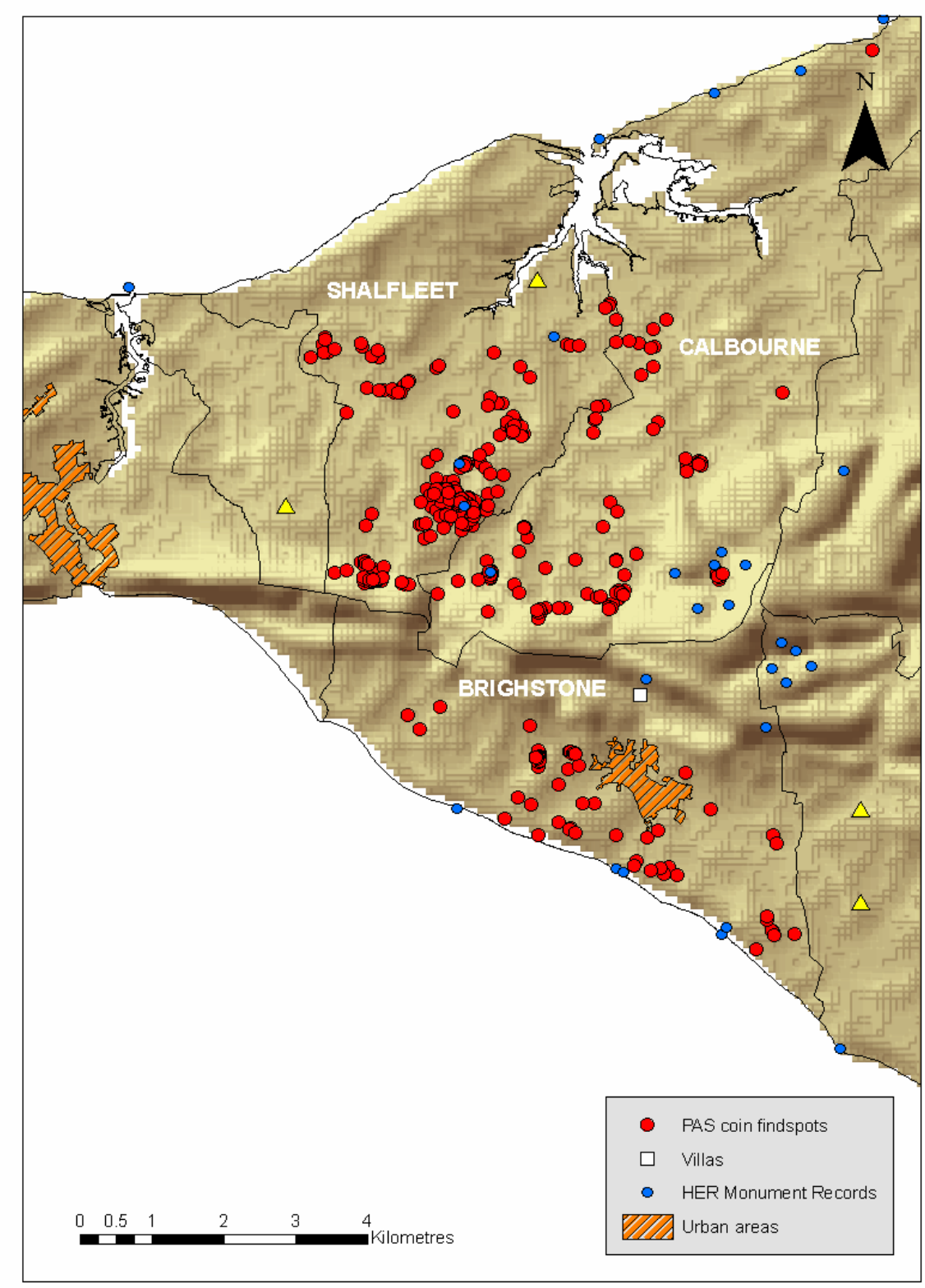


Figure 100: All PAS coin findspots and Roman sites recorded on the HER

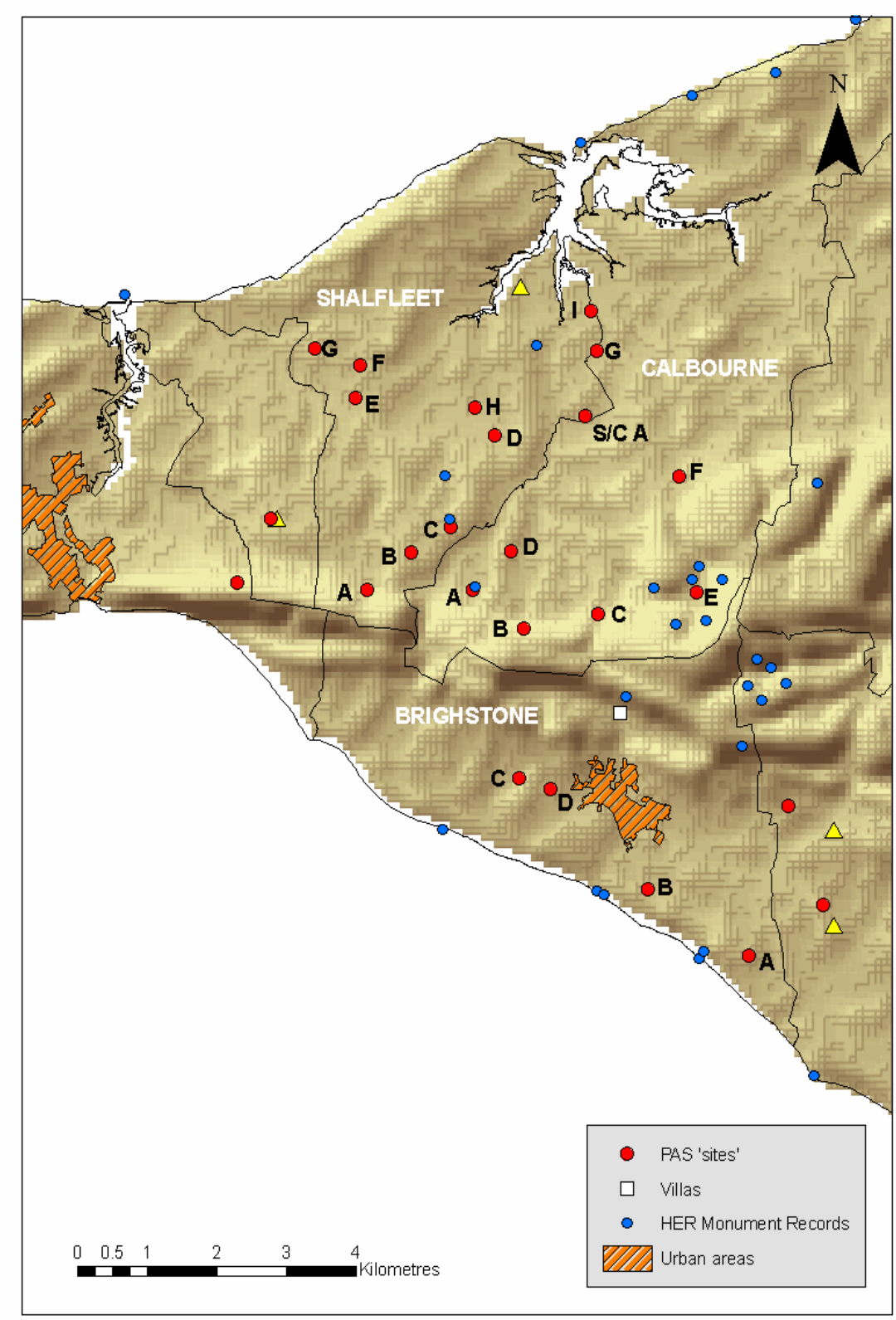


Figure 101: PAS 'sites' in the parishes of Shalfleet, Calbourne and Brighstone

9.10 Group 1: early and late coin profiles

The largest group comprises a total of ten 'sites' with assemblages ranging in size from 5 to 26 coins. The 'sites' include Shalfleet Site B, Shalfleet Site D, Shalfleet Site E, Shalfleet/Calbourne Site A, Calbourne Site A, Calbourne Site B, Calbourne Site C, Calbourne Site F, Brighstone Site A and Brighstone Site D. A *per mill* profile is presented for the group in Figure 102. The group is characterised by a pattern of coin loss which comprises two peaks falling in the first to second century and the late third to fourth century AD, separated by hiatus in the second or third century AD. This pattern of coin loss was also noted throughout the island at a parish level indicating that it is an island-wide phenomenon and not just a feature of 'sites' in Shalfleet, Calbourne and Brighstone.

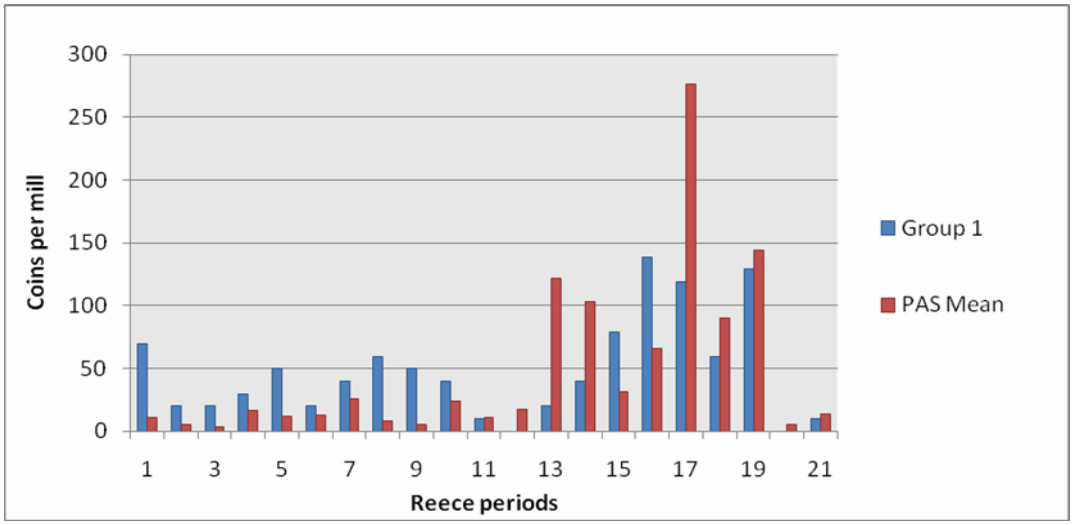


Figure 102: Group 1 *per mill* profile

Providing an interpretation of the Group 1 pattern of coin loss is difficult. It is possible that the early and late Roman peaks represent the development of discrete early and late Roman sites which share similar locations and that the hiatus in coin loss represents real discontinuity. However, absence of coins does not necessarily indicate an absence of activity and therefore it is also possible that the sites were active throughout the first to fourth century

but were either not supplied with coinage or did not use it extensively in the third century AD.

Unfortunately, the accompanying finds' evidence is sparse and provides little opportunity for further site characterization. Few objects have been recorded by the PAS from Group 1 'sites' and where present, they tend to be restricted to single items of late Roman metalwork such as IOW-C4B7C5 (a copper alloy strap-end), IOW-BA76D1 (a copper alloy harness pendant) or sherds of Black Burnished and Vectis ware. However, Calbourne Site A marks something of an exception to this rule and has not only produced coarse ware pottery sherds but also *tegulae*, floor tile, box flue tile and a fragment of a rotary quern. The rotary quern (IOW-EEDE26) suggests that grain processing may have been undertaken at the site whilst the range of tile forms indicates the existence of a substantial heated building, possibly a bath house or 'corn-dryer', in the vicinity.

9.11 Group 2: early Roman coin profiles

The second largest group comprises a total of four 'sites' each with an assemblage of only five coins. The 'sites' are Shalfleet Site H, Calbourne Site D, Calbourne Site G and Brighstone Site B. The coin loss profile for Group 2 is characterised by a pattern restricted to first to third century coin loss as Figure 103 illustrates. With the exception of Calbourne Site G, no other object types have been recorded by the PAS at Group 2 'sites' making characterization difficult.[48] However, the small size of all the assemblages and the lack of finds may indicate that these 'sites' were not permanent centres of Roman settlement. It also highlights the limitations of a methodology which defines a 'site' as having five or more coins. It is possible that numerous early Roman 'sites' which possess fewer than five coins are excluded because of this methodology.

[48]A copper alloy bull figurine probably made in Gaul and dating to the first century AD (IOW-2CA926) was recovered from Calbourne Site G. Only two other examples are known in Britain and its presence attests to links with the Continent.

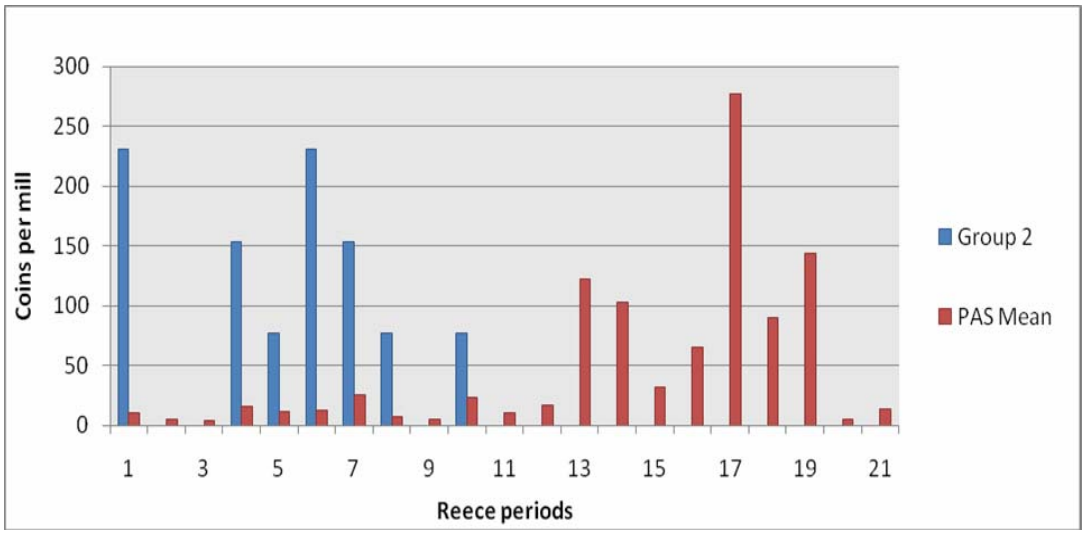


Figure 103: Group 2 *per mill* profile

9.12 Group 3: late Roman coin profiles

The third group also comprises four 'sites' with assemblages ranging in size from five coins to 115 coins. The Group 3 'sites' are Shalfleet Site A, Shalfleet Site F, Shalfleet Site I and Calbourne Site E and their coin loss profiles indicate a pattern of predominantly third and fourth century coinage as Figure 104 illustrates.

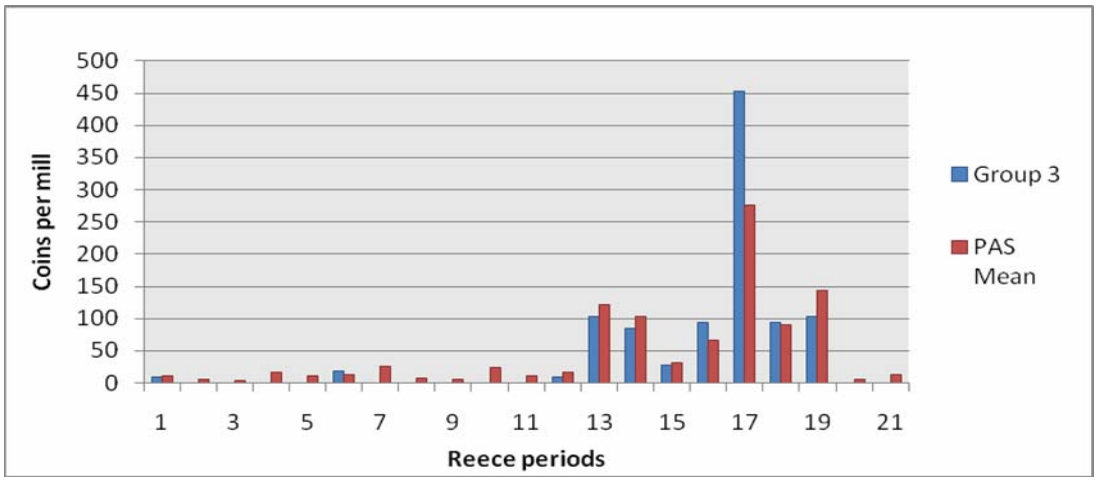


Figure 104: Group 3 *per mill* profile

Of these sites, only two possess accompanying finds' evidence, Shalfleet Site A and Shalfleet Site F. Whilst the finds' assemblage from Shalfleet Site F is made up almost entirely of sherds of Vectis ware pottery, Shalfleet Site A has a range of object types and is notable for the large number of coins (115 of which 86 can be dated to Reece periods) recorded from an area approximately 300 metres square. Whilst four worn issues of the Augustan coinage system and a single Period 6 issue attest to early or mid Roman activity at Site A, the *per mill* profile demonstrates that the 'site' has a clear late third and fourth century emphasis with numerous coins dating to the hundred year period between Periods 13 (AD 260-275) and Period 19 (AD 364-378). The site is unusual in the context of coin loss on the Isle of Wight both in the numbers of radiates recorded in Periods 13 and 14 and for the peak in Period 17 which is nearly twice the value calculated for the PASM. The metalwork (IOW-37C331 and IOW-9145C4) and the coarse-ware pottery (IOW-F868C3; IOW-F68546; IOW-F730D8) also suggest a fourth century date for settlement activity at the site whilst finds of tile and roof slabs (IOW-F868C3) confirm the existence of at least one building in the vicinity.

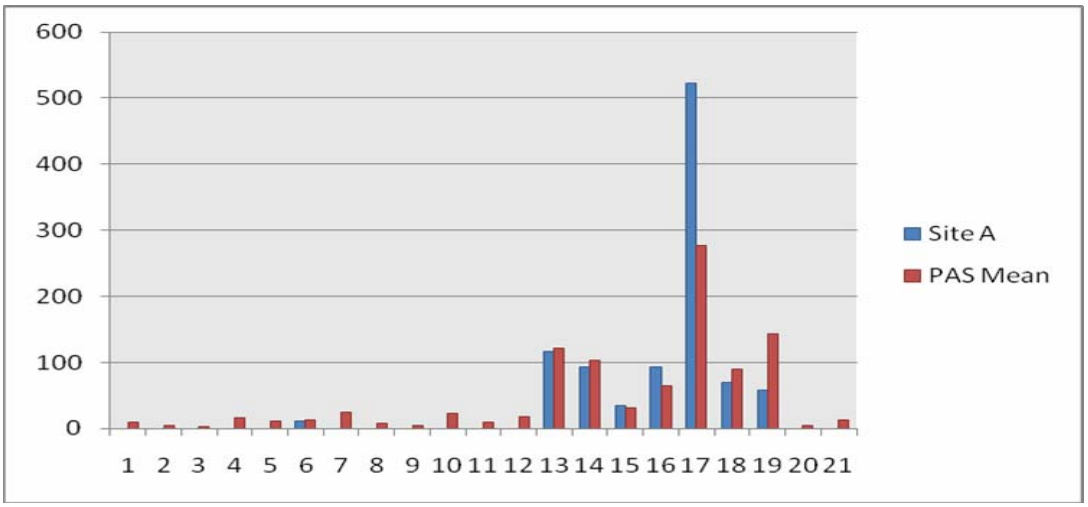


Figure 105: Shalfleet Site A per mill profile (86 coins)

9.13 Group 4: Coin loss throughout the Roman period

The fourth and smallest group comprises two 'sites', Shalfleet Site C and Brighstone Site C with assemblages of 127 and 31 coins respectively. The group is not only characterised by almost continuous coin loss throughout the Roman period but also by the presence of clusters of eastern and central Mediterranean mint issues. The *per mill* profile for the group is presented in Figure 106.

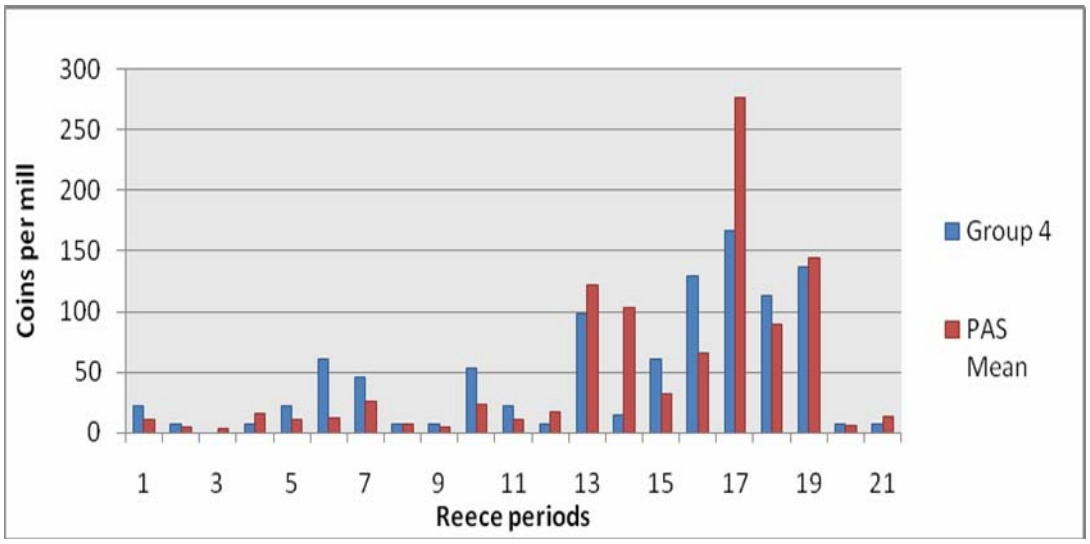


Figure 106: Group 4 *per mill* profile

Shalfleet Site C is notable as it possesses the largest number of coins (127 coins) and other objects (26 objects) recorded by the PAS on the Isle of Wight and is therefore of tremendous importance to any understanding of the Roman period. The *per mill* profile for the site exhibits coin loss spanning the Roman period and terminating in AD 388. The peaks in coin loss between Periods 5 and 7 (AD 98-161) and in Period 10 (AD 192-222) are particularly striking as is the contrast between the *per mill* values for Period 13 and Period 14 (AD 260-275 and AD 275-296). Not only is the general pattern of coin loss unusual but there are several individual issues of interest. These include a Carthaginian bronze unit (IOW-A94C87), two relatively unworn Republican issues dating to the second century BC (IOW-

1BE055 and IOW-3FF064), and five of the fourth century *nummi* from eastern or central Mediterranean mints.

The numismatic evidence is supplemented by numerous other object types which suggest settlement activity. Roof tiles have been recorded (IOW-07AEC5) indicating the existence of a building or buildings in the vicinity, whilst numerous small finds include items of personal adornment such as pins, beads and bracelets, as well as toilet articles and steelyard weights. These items are accompanied by a large assemblage of pottery sherds. As recorded at other PAS 'sites', Vectis and Black Burnished Ware dominate the pottery assemblages. However, unlike all other PAS 'sites' on the island, Samian ware dating to both the first and second centuries AD has also been recorded, perhaps suggesting a different type of activity at the site than seen elsewhere.

Whilst any interpretation of the site must remain tentative, the numismatic and artefactual evidence suggest that Shalfleet C acted as a focal point for Romano-British activity and settlement in west Wight. The presence of Samian ware and 'exotic' coins suggest that the site was part of a network of trade or exchange with the Continent, whilst its location on a limestone plateau, commanding views not only of the surrounding countryside, but also of the Solent and the English Channel mark it out as an ideal location for a market.

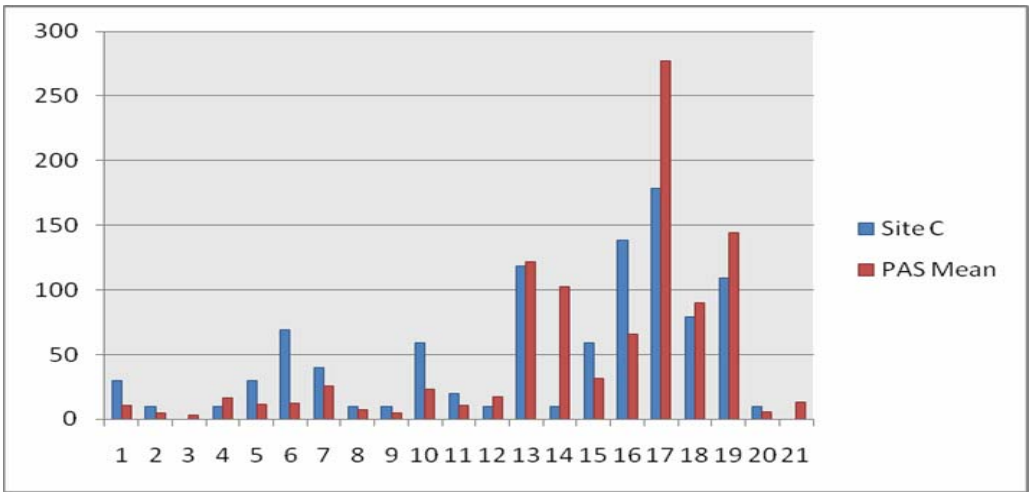


Figure 107: Site C Shalfleet per mill profile (101 coins)

The other Group 4 site, Brighstone Site C exhibits coin loss from Period 6 to Period 21 with particularly high values in Periods 18 and 19 as Figure 108 illustrates. In this respect, it has more of an emphasis on late fourth century coin loss than Shalfleet Site C and may therefore possess a different function or character. However, the site does have one striking similarity with Shalfleet Site C in that it also possesses one of the largest clusters of issues from 'exotic' mints. These include an unpublished bronze provincial coin of Geta from Bizya, Thrace (IOW-E6A925), an issue of Diocletian from the central or eastern empire (IOW-E5F2C8) and two fourth century *nummi* from eastern or central Mints. Interestingly, no other finds or pottery have been recorded by the PAS from Brighstone Site C, although whether this is a reflection of the nature of ancient activity or the collection methods of metal detector users is open to speculation.

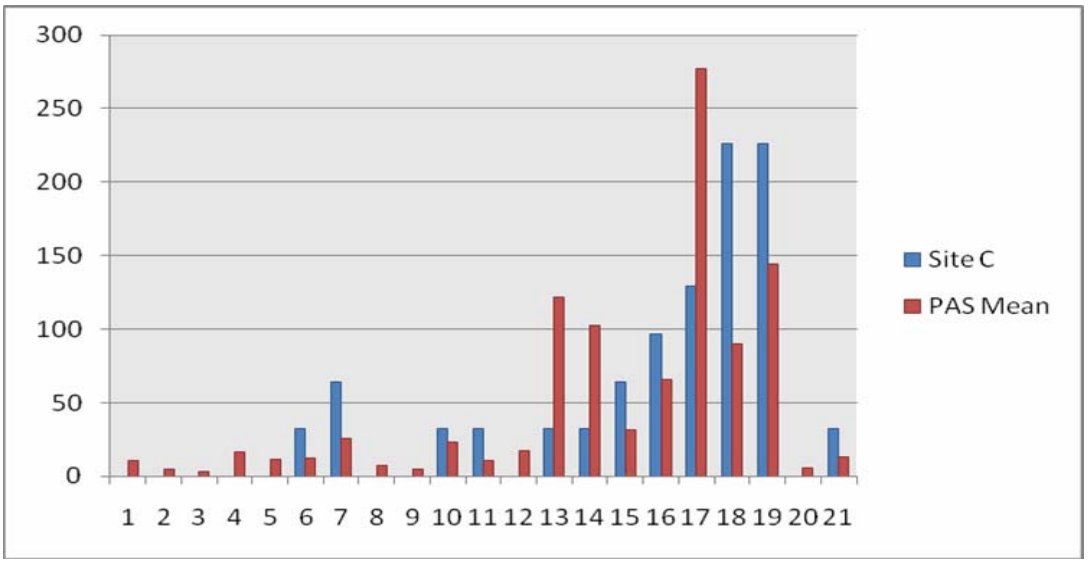


Figure 108: *Per mill* profile for Brighstone Site C (31 coins)

9.14 The distribution of 'sites'

W Wigure 109 illustrates the distribution of 'sites' in the parishes of Shalfleet, Calbourne and Brighstone throughout the Roman period. They emphasise the extent to which west Wight is dominated by a pattern of early and late coin loss, with a hiatus of activity in the mid to late third century AD. This is does not neccesarily suggest that there was also a hiatus in settlement activity in west Wight in the mid to late third century AD. However, further investigation is necessary to establish the potential reason or reasons why coins were not being supplied, used or lost during this period.

W Wigure 109: The distribution of (a) early; (b) mid; and (c) late Roman 'sites' on the Isle of Wight

9.15 Conclusions and further work

Due to the lack of published excavation reports, this chapter represents the first attempt to study both Roman site find and hoard evidence from the Isle of Wight. This study has proved profitable and the analysis of the combined datasets has not only revolutionized understanding of coin use and loss on Roman Wight but has also provided a way of identifying new Roman 'sites' throughout the archaeological landscape.

Suetonius remarked that *Vectis* was 'close to Britannia' (Suetonius *Vespasian* 4) implying that in an administrative or geographical sense, the Isle of Wight was in some way separate or different from the province.[49] This is certainly reflected in the mean values for coin loss for the island which highlight that coins were either being supplied, used or lost in a very different manner on the island, to the rest of *Britannia*. The high volumes of Period 1 *denarii*, Period 6 to 9 *sestertii* and fourth century issues from central and eastern Mediterranean mints all contribute to this picture of difference, whilst the low volume of *radiates* and almost complete absence of *radiate* copies is also notable. Indeed, the island can no longer be characterised simply as a rural, villa dominated zone. Instead, its potential role within long distance networks of trade and exchange must be explored and its relationship with both Gaul and the province of *Britannia* reassessed.

An exploration of the distribution of coins from the island has confirmed existing ideas regarding settlement pattern on the island, whilst parish and 'site' profiles have illustrated that the use of coins was relatively widespread and followed similar chronological patterns of deposition. Furthermore, clusters of coins within PAS parish assemblages have indicated the potential locations of thirty new sites of Roman activity and provided additional information about seven sites already known to the HER. Of particular note is the concentration of activity in the parish of Shalfleet and

[49] *'Britanniae proximam'* Suetonius *Vespasian* 4.

the potential significance of the limestone deposit on which this activity is located.

Whilst this chapter has undoubtedly increased our understanding of Roman Wight, there is still much scope for further study at both the regional and site specific level. The Roman period on the island did not develop within a chronological and cultural vacuum and therefore further work is needed to situate the conclusions of this study within the context of wider developments from the Late Iron Age to the Early Medieval period. For example, individual 'sites' identified through clusters of coins in the parishes of Shalfleet, Calbourne and Brighstone, are likely to have had long histories. All would benefit from a programme of archaeological fieldwork comprising field-walking, geophysics and targeted excavation Such study could be carried out within the context of the Isle of Wight Historic Landscape Characterisation project (Basford *pers. comm.).*

Chapter 10

An analysis of the coins from Piercebridge, County Durham

10 Introduction

This chapter comprises an examination of 1021 Roman coins recorded by the PAS from Piercebridge, County Durham (DUR0007). The coins form part of a substantial assemblage of metalwork, pottery and bone recovered from the bed of the River Tees. The composition and size of the assemblage together with its riverine location all suggest a votive deposit of national importance (Casey 1989; Walton 2008). This study therefore aims to examine the character of the coin assemblage in more detail, suggest a chronology for its deposition and explore the possible identities of devotees involved. This has been approached by comparing the chronological and denominational composition of the DUR0007 coin assemblage with national, regional and site-specific patterns of coin loss. These comparisons have then been supplemented by an examination of two elements of the coin assemblage: counterfeit and mutilated issues, whilst the relationship between the coin assemblage and other Roman objects found in the river has also been explored.

10.1 Previous archaeological study of Roman Piercebridge

Due to its strategic location at the point where Dere Street crosses the River Tees and its obvious importance during the Roman period, the parish of Piercebridge has been subjected to an extensive programme of excavation and survey throughout the twentieth century. The results of this programme have recently been published (Cool and Mason 2008) and can be summarised as follows.

Holme House villa, located to the south east of Piercebridge represents the earliest evidence for Roman period activity in the area. The villa developed from a round-house structure in the late first century and quickly acquired the accoutrements of ‘Romanised’ life including a bath-house, painted walls, mosaics and glazing. Its presence is extremely unusual in a northern context and the impetus for its early and rapid development remains

uncertain although first century diplomatic contacts between the Brigantes and Rome have been suggested as a possibility (Cool and Mason 2008, 297).

At the beginning of the second century AD, a civil settlement with associated pottery kilns and industrial activity began to develop in Toft's Field on the northern bank of the River Tees. The layout of the settlement is clearly visible in aerial photographs of the area. The growth of this settlement has been seen as indirect evidence for the existence of a Flavian fort in the vicinity, hence its classification as a 'vicus'. However, despite the strategic importance of Piercebridge, there is no evidence recovered thus far for early military activity at the site. At some time in the late second century, there was a massive surge in activity at the site indicated 'by a sudden and vast increase in the volume of all types of artefacts' (Cool and Mason 2008, 302). This has been interpreted as being a reflection of the arrival of a military unit or an official presence.

Military activity in the area from the early third century AD onwards is confirmed by the discovery of a number of building inscriptions, dedications and tombstones. These attest to the presence of legionaries from *Legio VI Victrix* (*RIB I* 1205), *Legio II Augusta* (Wright 1967, 205, no. 20) and *Legio XXII Primigenia* (*RIB I* 1026) as well as detachments from the armies of Upper and Lower Germany. In the period AD 260-280, the fort was constructed and the character of activity throughout the parish changed with the site 'ceasing to be such a major centre' (Cool and Mason 2008, 311). Military activity appears to have continued throughout the fourth century and in the early fifth century AD, the fort may have become the base for a local leader.

Twentieth century fieldwork has recently been supplemented by a preliminary evaluation of the archaeology of the riverbed and its relationship

with the fort, *vicus* and Roman roads known at the site (Wessex Archaeology 2010). Whilst somewhat limited in scope[50], it did establish an association between the votive deposit and a series of wooden structures on the riverbed. These structures may represent the base for a bridge on the original alignment of Dere Street. It has been argued that this bridge fell out of use in the second century and was replaced by the more monumental structure visible downstream. However, the date of the coin assemblage and accompanying finds assemblage tends to argue against such a theory.

10.2 Data used in this study

The primary dataset used in this study comprises a total of 1021 Roman coins recorded by the PAS under the identifier DUR0007. 632 of the coins were downloaded from the PAS database in March 2008 with the remaining 389 identified by the author in February 2009. The anaerobic conditions of the river have ensured that the majority of coins remain un-corroded. However, 189 were too worn to date accurately and therefore only 832 coins were used in Reece period analysis. A small proportion of coins have been analysed previously. 166 coins were catalogued by Casey in the late 1980s (Casey 1989, 37ff) whilst a discussion of the significance of 586 coins and the assemblage as a whole was published in the recent monograph on the excavations at Piercebridge (Walton 2008). Elements of the discussion outlined in this article are incorporated into this chapter although the majority of analysis supersedes the conclusions reached there.

The coins were recovered from the River Tees between 1986 and 2008, by two divers, Bob Middlemass and Rolfe Mitchinson. Their findspot and relationship with the known Roman archaeology of Piercebridge is illustrated in Figure 110. Visual detection methods were favoured over the use of an underwater metal detector and it is possible that smaller or less visible coins

[50] The investigation formed part of a three day excavation filmed for Channel 4's *Time Team.*

are under-presented in the dataset as happened during the survey of the River Liri (Metcalf 1974, 42).

The assemblage was concentrated in an area measuring five metres by five metres towards the middle of the river. As already noted, the alignment of Dere Street revealed by crop-mark evidence indicates that a bridge built in the early Roman period is likely to have spanned the findspot. The range of wooden structures dated to the mid second and mid third centuries by C-14 may represent the foundations of such a bridge or repairs to it. Some artefacts were recovered from a fine silt layer covering the riverbed, whilst others were found within ceramic vessels. However, the majority were encased in a concretion of organic material and iron corrosion products. The concretion also encased more than 80 box studs and furniture fittings. This may indicate that at least some of the coins and artefacts had been positioned carefully on the riverbed in wooden boxes or chests.

The Roman coins recorded by the PAS are supplemented by material from two further sources. The first is an assemblage of 2,597 coins recovered from the extensive excavations of the fort and ‘small town’ at Piercebridge. The Cluster Analysis employs the provisional figures published in 1991 (Reece 1991b) whilst the denominational analysis makes use of the more detailed dataset published in 2008 (Brickstock 2008, 159ff). This dataset provides an invaluable opportunity to study the composition of the DUR0007 group in comparison with coins lost at a site immediately adjacent to their findspot. The second dataset comprises the group of 527 artefacts found in association with the DUR0007 coins. These artefacts provide additional indicators regarding the chronology and character of votive activity at the site.

Figure 110: Main Roman sites within the parish of Piercebridge, County Durham

10.3 Issues affecting the interpretation of the dataset

There are a number of issues which may affect the interpretation of the dataset. First, it is important to stress that as a votive deposit, the river assemblage will have been the result of different processes of deposition to PAS parish and site assemblages. Whereas the majority of these assemblages are the result of casual loss over time, the DUR0007 coins and objects were deposited deliberately in the river. Therefore, when the assemblage is compared with PAS mean values and site profiles, it is not a simple case of comparing like with like. A second inter-related issue concerns the dating of the assemblage. Whilst this chapter will suggest a potential chronology, it is impossible to determine the exact frequency with

which coins were deposited or whether objects were always offered contemporaneously with coinage. Furthermore, due to the long circulation life of Roman coins exemplified by hoards such as Shapwick (Abdy and Minnitt 2002), the presence of early issues need not necessarily equate to early activity. Third, the coins recovered from the river Tees may not be a representative sample of what was originally offered. It is often assumed that votive deposits represent offerings to the gods which were never intended for recovery. However, ancient sources do refer occasionally to the retrieval of coins from temple treasuries and votive deposits. For example, at Narni in Umbria, coins from a *lacus* were used to finance a religious image and the construction of a temple (Sauer 2005, 111). Despite these issues, the data can still be used to explore a wide range of questions and illuminate something of the nature of activity at Piercebridge in the Roman period.

10.4 The river assemblage in a national and regional context

The river assemblage has first been compared with the PAS Mean and the North of the Fosse Way Mean discussed in Chapter 4. Histograms illustrating these comparisons are presented in Figure 111a and Figure 111b. It is evident that the river profile shares few common features with either set of mean values. Its pattern of above average coin loss in the first to third centuries combined with below average late Roman coin loss contrasts markedly with their late Roman emphasis. Only in Periods 13 and 14 (AD 260-296) and Period 21 (AD 388-402) is there a degree of similarity between the three profiles. The river profile exhibits a pattern of coin loss reminiscent of early to mid Roman military or urban sites (Guest 2008f, 53; Moorhead 2001a, 88). It does not behave like typical rural or temple sites which tend to exhibit above average fourth century coin loss (King 2008, 31).

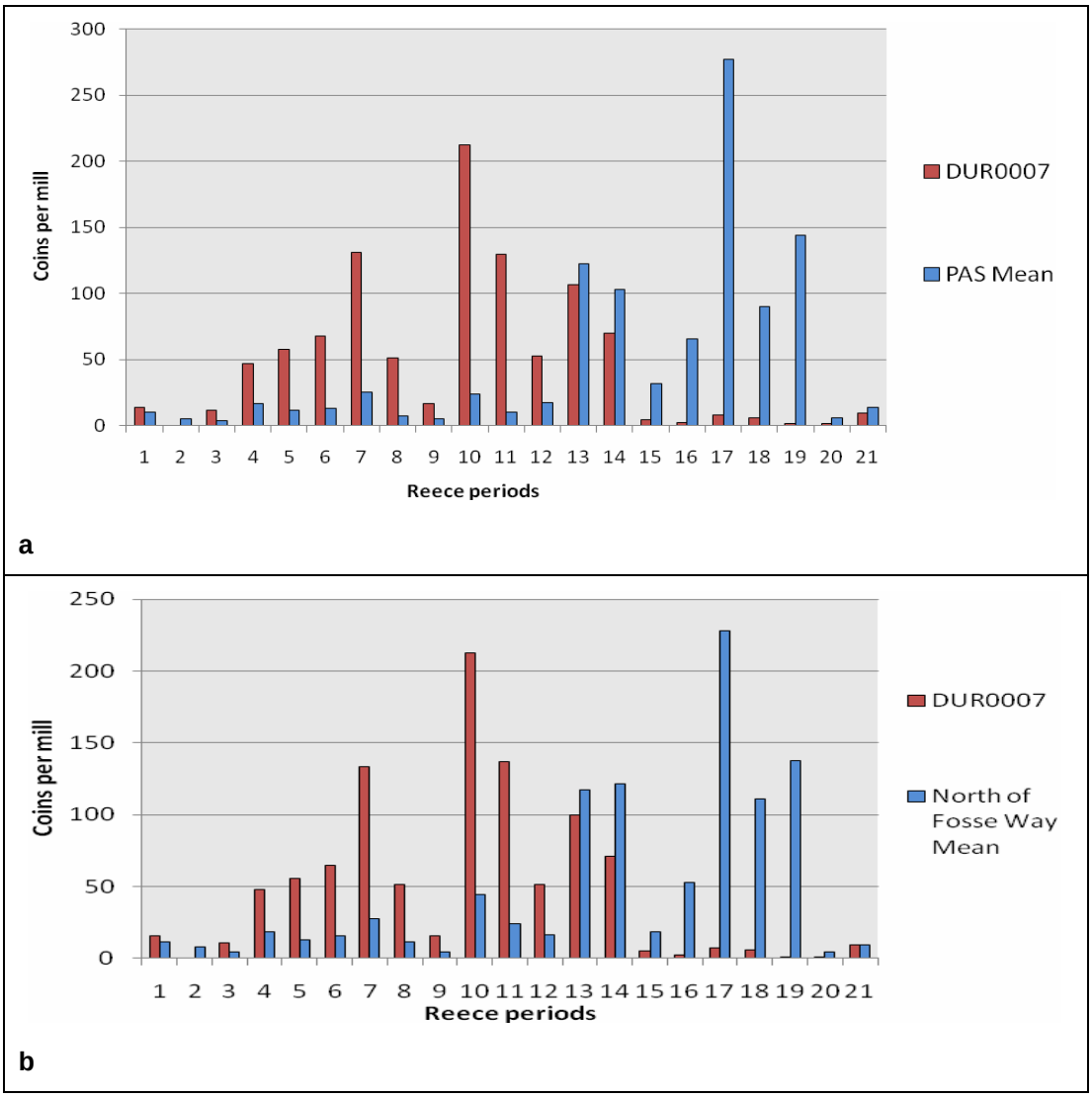


Figure 111: (a) Piercebridge river assemblage compared with the PASM and (b) the NFWM

The river assemblage is provided with further context when its denominational profile is compared with that calculated for the area to the north of the Fosse Way (NFWDM). The denominational profile is presented as a line graph in Figure 112a and is supplemented by a stack bar chart in Figure 112b which illustrates the percentage of each denomination in the assemblage by Reece period. The NFWDM has been illustrated in a similar manner in Figure 113a and b and has been modified here to exclude the coin data from Piercebridge.

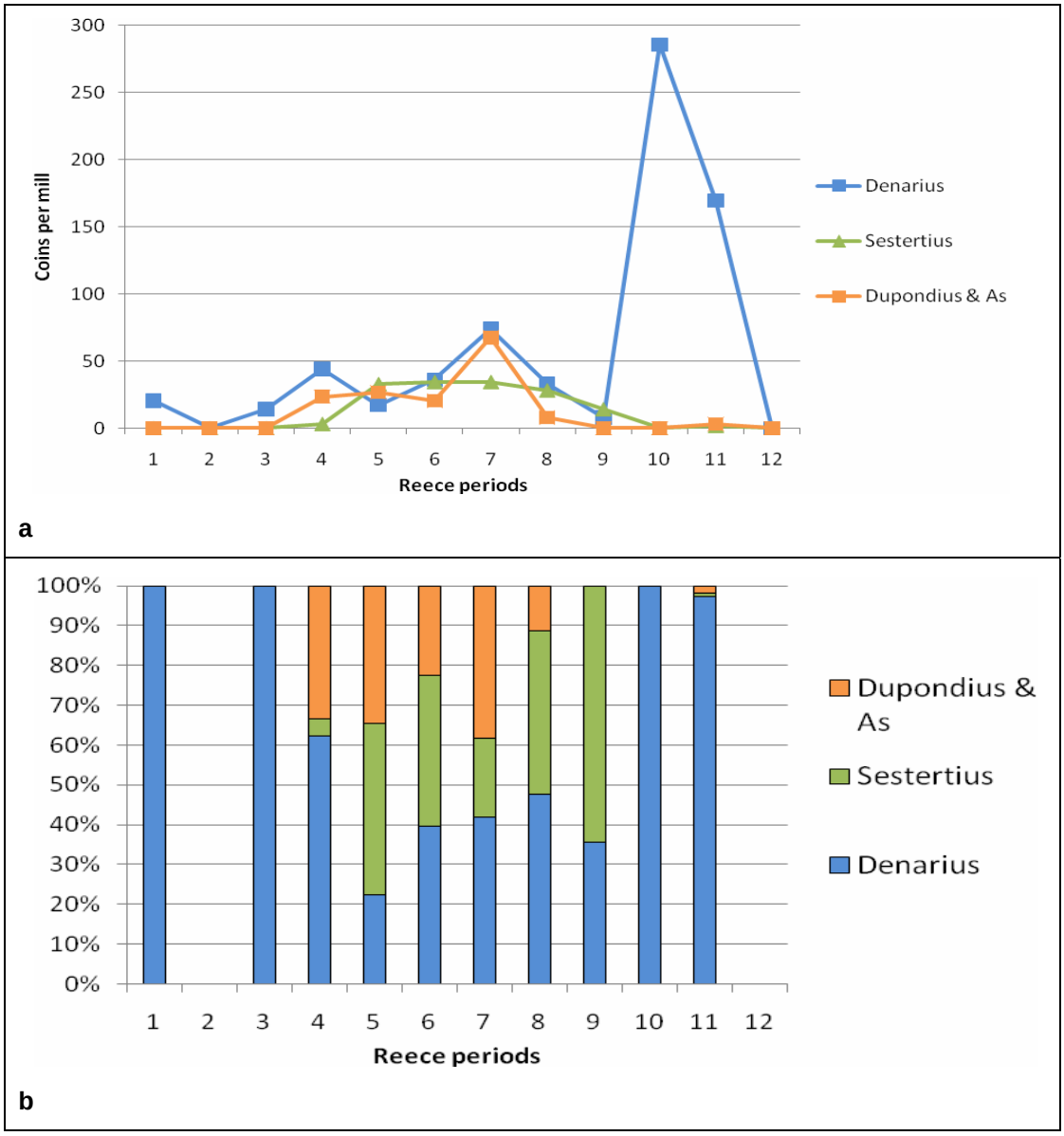


Figure 112: (a) Denominational profile for Piercebridge river assemblage and (b) the percentage of each denomination by Reece period

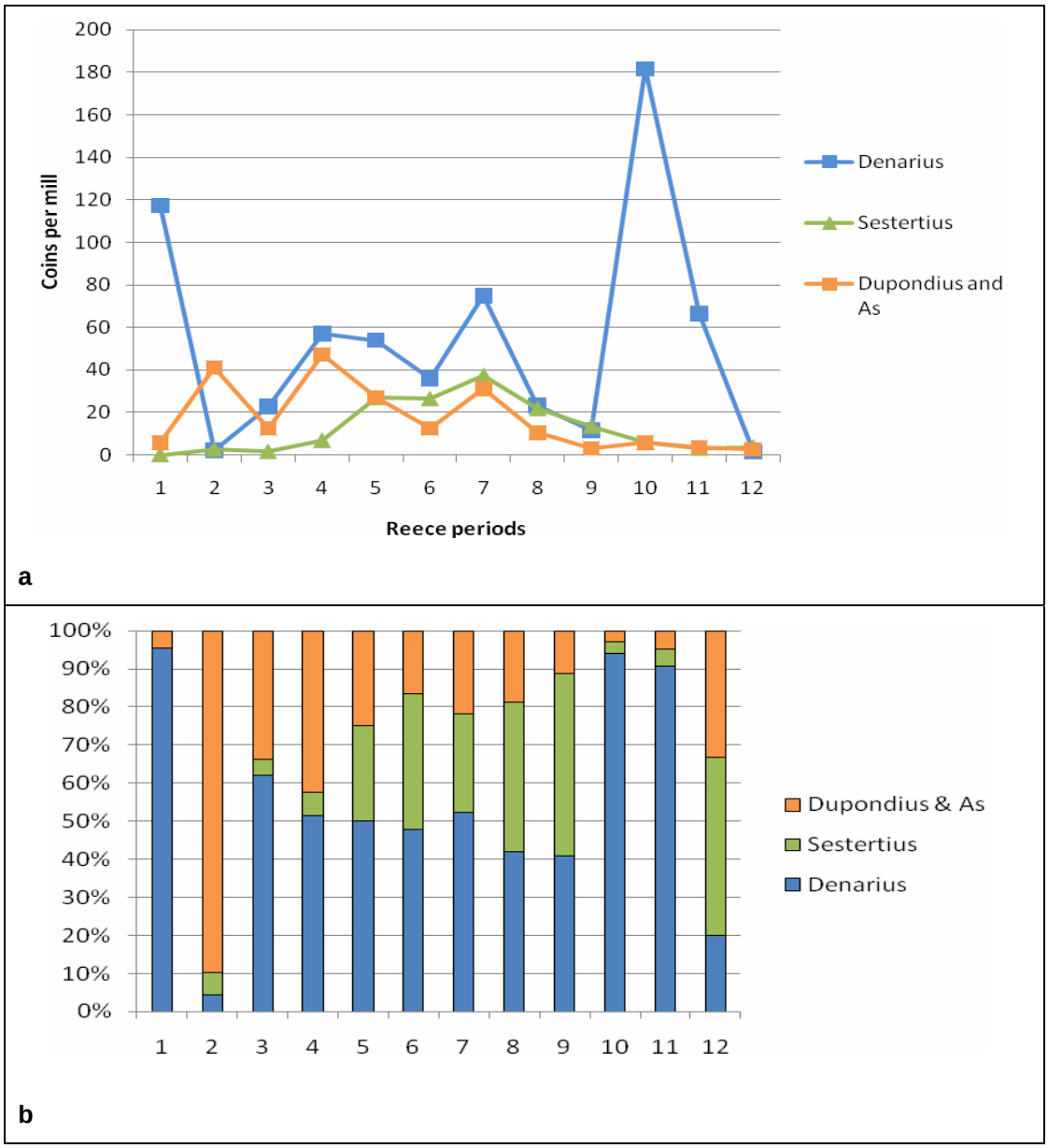


Figure 113: (a) Denominational Mean and (b) percentage of each denomination by Reece period for the area to the North of the Fosse Way (excluding Piercebridge)

In some respects, the river denominational profile reflects the peaks in volume and denominational relationships of the NFWDM. This indicates that the assemblage was selected from the pool of circulating coinage north of the Fosse Way. Thus, the *denarius* is for the most part the dominant denomination with peaks in Periods 1, 4, 7 and 10, just as is the case in the NFWDM. Furthermore, the *per mill* values for the *sestertius* increase from

Period 4 onwards and peak in the late second century AD with the largest proportion of *sestertii* present in Period 9. However, there are several points of divergence. Firstly, there is a dramatic difference between the values of the *denarius* peak in Period 10 with the DUR0007 value being 286 *per mill* whereas the NFDM value is 182 *per mill*. This dramatic peak is likely to be the result of increased depositional activity in the early third century. Secondly, the peaks seen in *dupondii* and *asses* recorded in Period 2 and 4 in the NFWDM are not reflected in the PASDM. No low value bronze denominations are recorded until Period 4 (AD69-96). In this context, the lack of Claudian *as* copies is instructive. In Chapter 6 it was shown that these copies circulated in northern Britain until the AD 130s. This indicates that the deposition of coins in the river is unlikely to have begun until after this date.

10.5 Comparison with the other Romano-British votive sites

Comparisons with national and regional means have illustrated the unusual composition of the river assemblage. It is possible that this composition may be related to its status as a watery votive deposit. Therefore, a comparison with the coin data from two further watery votive deposits, Coventina's Well and the Sacred Spring at Bath has been undertaken and is illustrated by Figure 114a and b. Both sites share a superficial similarity with DUR0007 in that they exhibit a pattern which emphasises early Roman coin loss particularly from the Flavian period onwards. However, they lack the high level of early third century coin loss (Periods 10 to 12) which is such a prominent feature of the river assemblage's profile.

Furthermore, as Figure 115a and b illustrate, their denominational profiles are quite different. The assemblages from Coventina's Well and the Sacred Spring are almost entirely composed of bronze denominations and there are very few *denarii*. Low value coinage was deliberately selected for deposition (Walker 1988, 285). In contrast, the *denarius* is the dominant denomination

within the river assemblage. This dominance could be accounted for in a variety of ways. First, it may in part be a reflection of the value attached to the cult worshipped at Piercebridge. Indeed, the substantial number of gold and silver items in the river assemblage – some twenty objects so far - attests to the wealth of devotees at Piercebridge and their willingness to deposit valuable artefacts. This is a feature unique to Piercebridge and contrasts with both the assemblages from Coventina's Well and the Sacred Spring, Bath.[51] However, the dominance of the *denarius* may also reflect the denominational composition of the coinage pool from which the coins were selected for deposition. In the early third century, bronze denominations were not supplied to Britain in any quantity and therefore the *denarius* for a time represented the lowest value denomination in circulation. Large quantities of *denarii* are a feature of deposits dating to the third century AD (Brickstock 2008, 161) and even at Coventina's Well and the Sacred Spring, Severan period *denarii* are common. Therefore, the prominence of the *denarius* may indicate a third century date for the majority of coin deposition at Piercebridge, with the presence of second century bronze denominations reflecting more limited Antonine activity.

[51] The assemblage of precious metal objects from Coventina's Well comprises two gold and three silver finger rings and 4 *aurei*. (Allason-Jones and McKay 1985, 19ff). The assemblage from the Sacred Spring includes one gold and garnet earring, one silver earring, two silver pans, two silver bosses and a silver tack and a silver gilt lunate pendant (Henig *et al*.1988, 5-27) and 4 *aurei* (Walker 1988, 306ff)

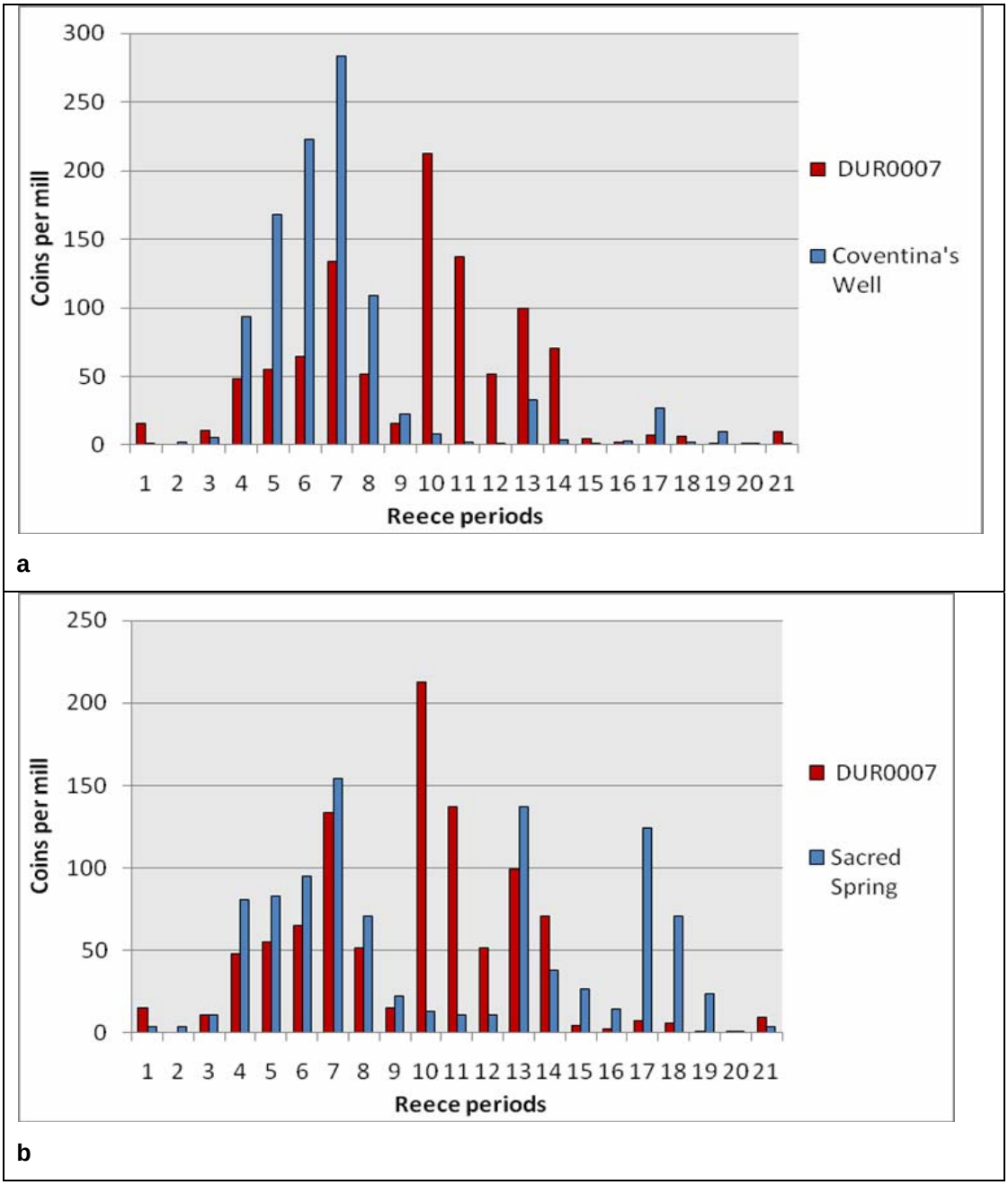
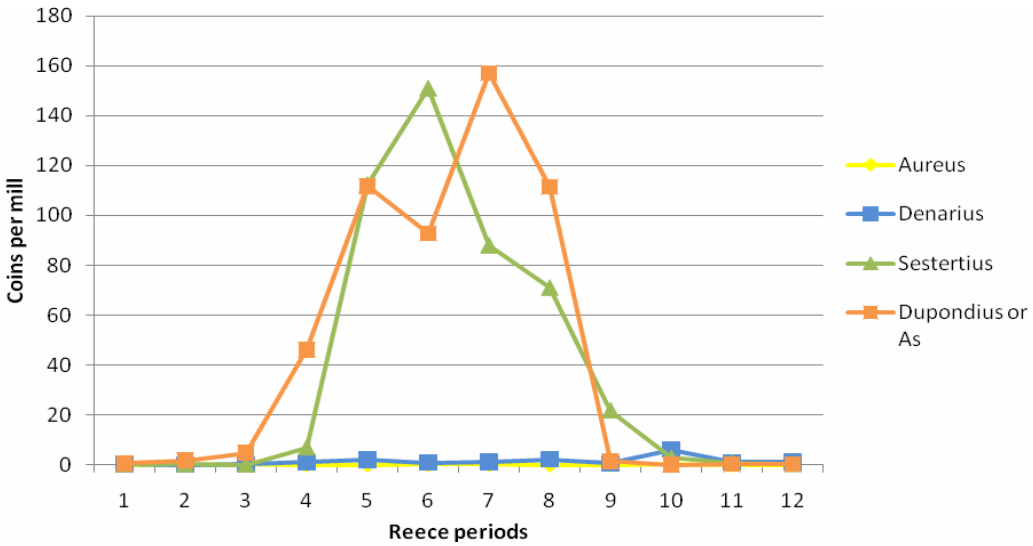
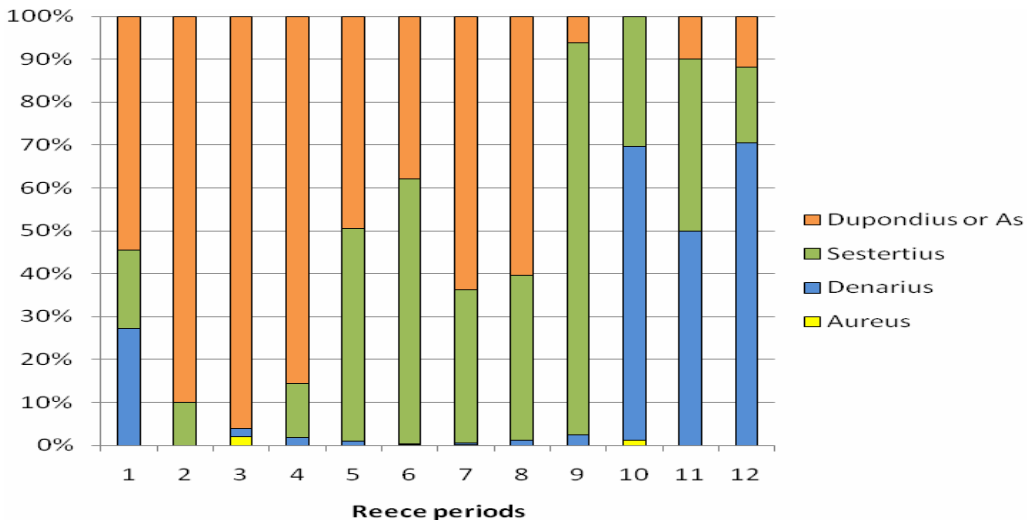


Figure 114: (a) The per mill profile for Coventina's Well and (b) the Sacred Spring, Bath



a



b

Figure 115: (a) The denominational profile and (b) the percentage of each denomination from Coventina's Well, Northumberland

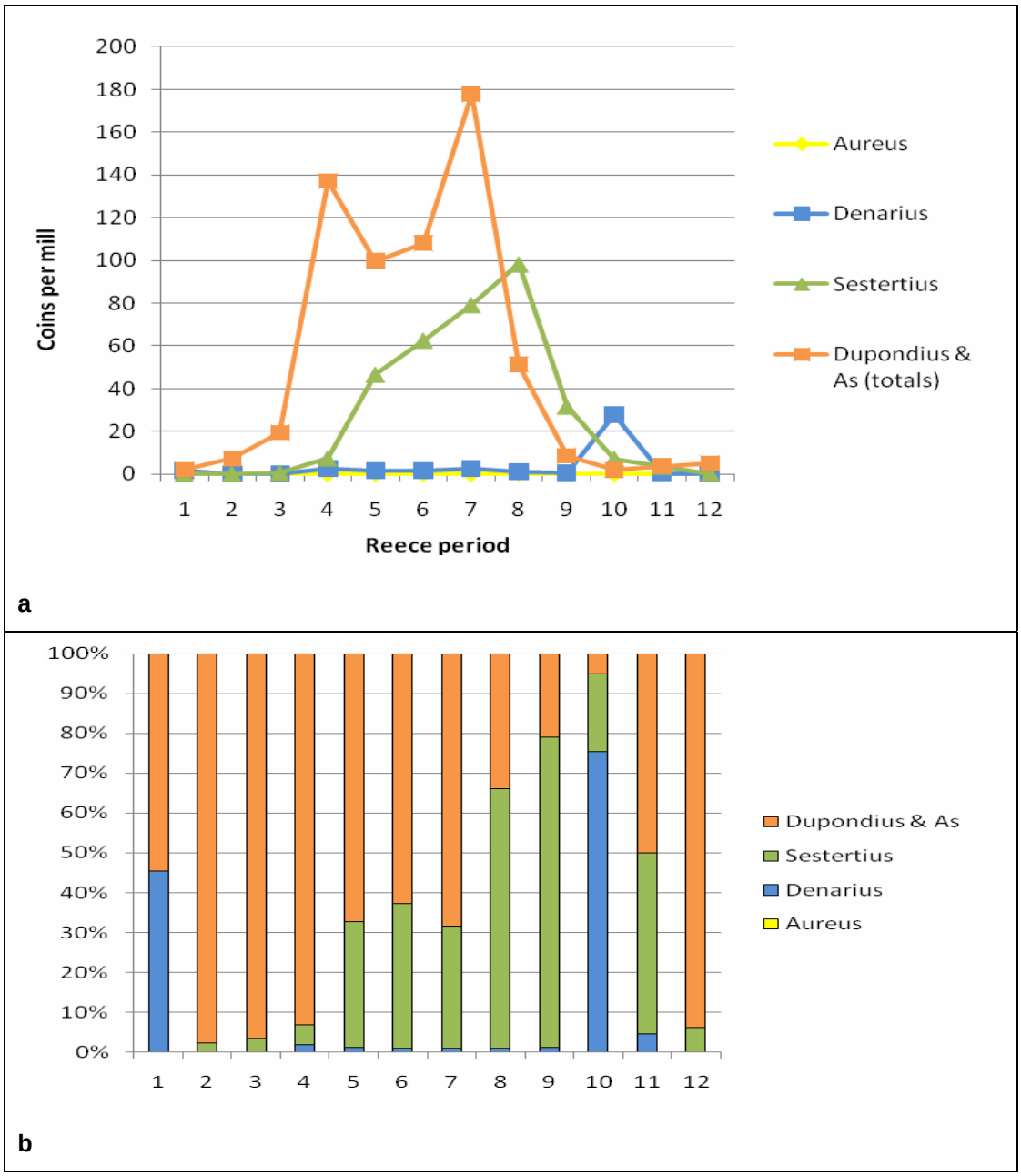


Figure 116: (a) The denominational profile and (b) the percentage of each denomination from the Sacred Spring, Bath

10.6 Comparison with Piercebridge excavation assemblage

The river assemblage has also been compared with the chronological and denominational profiles calculated using the 2,497 Roman coins recovered during excavations at Piercebridge (Brickstock 2008, 159ff; Reece 1991b, 27). This comparison is presented in Figure 117 and Figure 118a and b.

Due to the close proximity of the excavations with the findspot of the DUR0007 assemblage, it might be expected that the profiles would share a similar chronological and denominational composition. However, this is not the case, with the excavation profile exhibiting a late Roman urban profile.

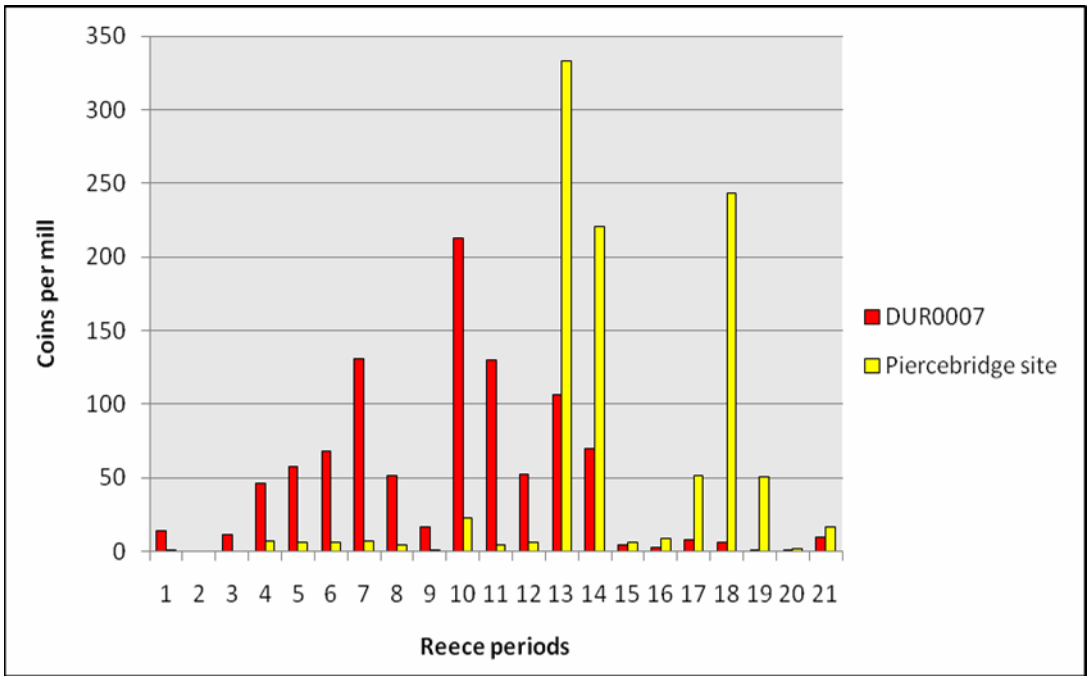


Figure 117: Piercebridge (DUR0007) compared with Piercebridge site (Brickstock 2008)

The denominational composition of the excavation assemblage is also very different. Bronze denominations, particularly the *sestertius* dominate the excavation assemblage although there is an extremely large peak in *denarii* in Period 10. This suggests an increase in coin loss in the mid to late second century followed by a surge of activity in the early third century. Furthermore, the contrast with the DUR0007 assemblage reinforces the argument for either the concentrated deposition of the DUR0007 assemblage in the early third century or indeed the deliberate selection of high value coinage for deposition.

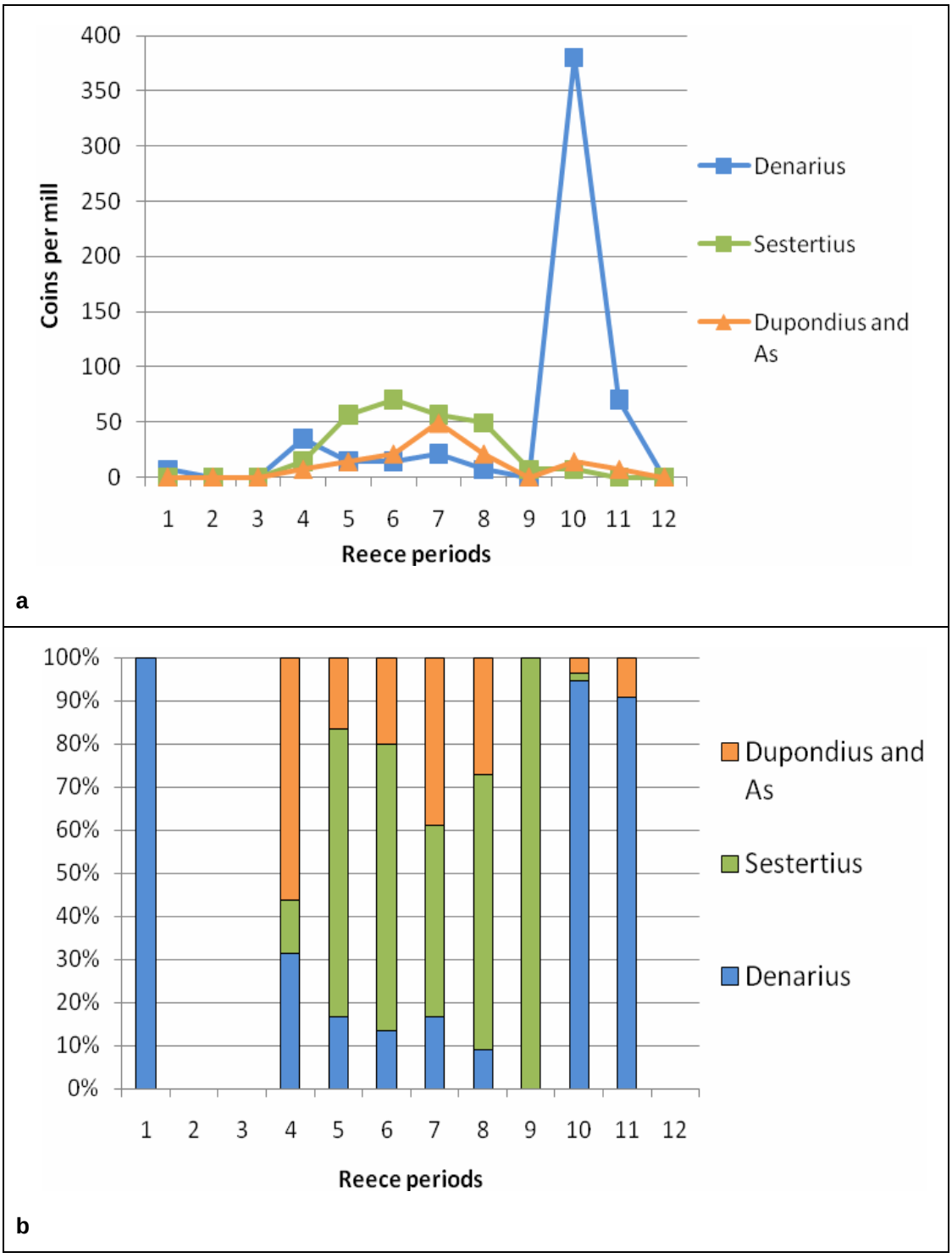


Figure 118: (a) The denominational profile and (b) percentage of each denomination in Piercebridge excavation assemblage.

10.7 Establishing function and users with Cluster Analysis

Analysis of the river assemblage's chronological and denominational profile and comparison with selected sites has indicated that it has a pattern of coin loss with early Roman military or urban connotations. However, it does not appear to exhibit many of the characteristics associated with either Romano-British temple or votive profiles.

The extent to which the DUR0007 profile is indicative of any particular site type can be explored further using the results of Cluster Analysis. The purpose of the Cluster Analysis was to group PAS parish and comparative site profiles by their degree of similarity. Therefore, the function of comparative sites assigned to the same Cluster Analysis groups as the river assemblage has direct relevance here. At a height of 30, DUR0007 forms part of Group 1. This Group comprises 21 parish and 47 site profiles and a total of 23,384 coins. As Figure 119a illustrates, the Group 1 *per mill* profile exhibits above average values for the first to third centuries, particularly between Periods 4 and 9 (69 AD-193 AD) when compared with the PAS Mean and well below average values for the late third and fourth centuries.

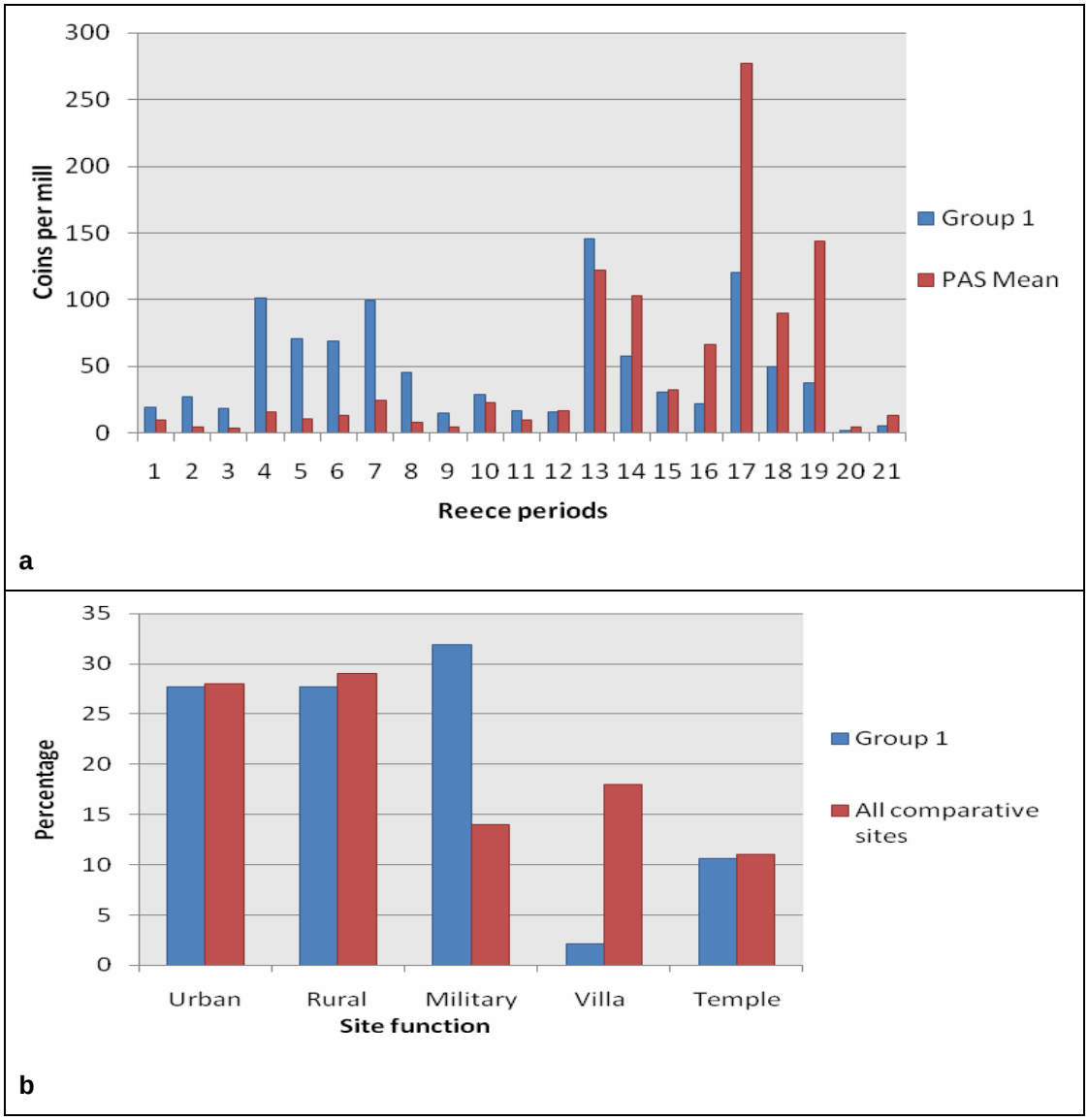


Figure 119: (a) H30 Group 1 profile and (b) percentage of each site type in Group 1

In terms of site function, Group 1 is not associated with any particular site type as Figure 119b demonstrates. It has approximately the same percentage of temples, urban and rural sites as the assemblage of comparative sites as a whole. It has, however, a much lower proportion of villa sites and a much higher proportion of military sites. This suggests that the Piercebridge river assemblage has a military profile rather than one associated with temple or votive deposits. Indeed, of particular interest is the

low percentage (11%) of temple assemblages assigned to Group 1.[52] It may therefore be possible to suggest that there is no specific chronological pattern of coin loss which links DUR0007 with the practice of votive deposition; but rather that the assemblage reflects the circulation pool of coinage in northern Britain at the time the offerings were made.[53]

This suggestion is reinforced when Group 1 is sub-divided at a height of 20 into 11 smaller groups. DUR0007 now forms part of Group 53, which it shares with one other parish assemblage of 20 coins from Great Witley (WORC0028). The fact that there are only two members in Group 53 and no comparative sites highlights the peculiarity of the river assemblage. It is possible that the other parish profile in the group from Great Witley, Worcestershire (WORC0028) is also votive in nature. However, the assemblage is very small in size, the treatment of the coins does not suggest ritual deposition and there are no artefacts associated with the coins.

10.8 Cut and mutilated coins

Numerical analysis has emphasised the unusual composition of the DUR0007 assemblage but shown that it does not have chronological or denominational traits characteristic of other Romano-British temple sites or votive deposits. However, a more detailed survey of other elements of the coin assemblage and its relationship with other artefact types deposited in the river confirm its ritual status.

First, the river assemblage includes examples of defaced, bent and deliberately mutilated coins. Amongst these are a total of 24 *denarii* which

[52] The temples included in H30 Group 1 are the Sacred Spring, Bath (C001), Harlow temple (C084), Coleshill (C323) and Springhead (C165). The Westhawk Farm metal detecting assemblage (C173) which Guest argued may have been partially votive in nature (Guest 2008, 139) is also included in H30 Group 1.

[53] Both Reece 1980c and King 2008 make the observation that the pattern of coin loss at temple sites conforms in general terms to other types of site and that coin offerings at temples were made with coins that happened to be in circulation at the time.

have been cut up. One example has been cut in half and another crimped, but the majority of coins have been clipped along two edges. They range from Neronian to Severan issues, with the largest proportion being Severan in date and despite the high incidence of copies in the assemblage, all are official issues.

There are very few records of cut and mutilated coinage from Romano-British sites, with only three providing multiple examples. These are the Late Iron Age and early Roman temple complex at Hayling Island, the votive deposit from the Sacred Spring at Bath (King 2008, 30) and that from the Thames at London Bridge (Rhodes 1991, 184). Mutilation of coinage is however frequently encountered in sanctuary sites in Gaul and it is possible that it represents an imported custom. Indeed, the religious function of all the sites strongly implies that mutilation has a religious or ritual association and it is therefore possible that the cutting of coins is analogous to the bending and breaking of weapons seen in Bronze and Iron Age votive deposits (Aubin and Messonier 1992; De Jersey 2005; Kiernan 2001; Wigg-Wolf 2005). Alternatively, cut official *denarii* may have been used as a substitute for bronze denominations at times when they were in short supply. Instances of such a practice are known from Vindonissa and Novaesium where numerous *sestertii* were halved (Buttrey 1972, 31). However, the lack of uniformity in the treatment of *denarii* from the river would tend to argue against this being an organised practice.

10.9 Severan copies and other counterfeit coinage

A large number of the *denarii* in the DUR0007 assemblage are plated or silver washed copies. In Reece Periods 10 and 11 (AD 193-238), copies account for 31% of all coins recorded. It appears that these copies were deliberately selected for deposition in the river as only two Severan copies (SF 4797 and SF 4116) were recorded from the Piercebridge excavations. Whilst they were deliberately selected, their presence within the river

assemblage does not mean that they are necessarily votive in nature. It may be that they were recognised to be counterfeit and were offered up in preference to genuine issues. Alternatively, it is possible that they were officially sanctioned and produced (by the army?) as a substitute for bronze denominations at a time when they were in short supply (Moorhead 2010, 25; Kemmers *pers comm.*).[54] This is not an implausible suggestion as the army may have been responsible for issuing Claudian *as* copies in the first century AD and official involvement is also suspected in the production of first and second century forged *asses* found in the Sacred Spring assemblage (Walker 1988, 291). Furthermore, their juxtaposition in the assemblage with a range of second or third century military equipment certainly suggests that they were used and offered by soldiers. However, further study of the national distribution pattern of Severan copies is required in order to contextualise their producers and users confidently.

In addition to plated and silver washed copies, there are also a total of twenty crudely manufactured coin forgeries amongst the assemblage. These forgeries comprise cast discs of lead which have been folded or rolled in a manner reminiscent of lead curse tablets. Although their size and portraiture suggest that they were intended to imitate *denarii* of Julia Maesa and Julia Mamaea, their metallic composition and execution make it very unlikely that the discs circulated as genuine currency. Instead, they could be interpreted as substitutional votive offerings manufactured specifically for deposition in the river. If this is the case, they would be unique in a Romano-British context. They are however, paralleled at sanctuary sites in Gaul and Germany (Kiernan 2009, 156) again suggesting the possible importation of religious ideas and practices by the Roman army and specifically legions from Upper and Lower Germany.[55]

[55] At the sanctuary of Digeon (Morvillers-Saint-Saturnin, Somme) 42 lead discs were found during excavations. They do not accurately imitate the designs of Roman coinage and instead are decorated with abstract circles, dot and crosses (Kiernan 2009, 156). At the

10.10 The role of the army

In Gaul, it has been argued that the deposition of coins in springs and riverine locations was essentially a Roman introduction, possibly associated with the Roman army (Sauer 2005, 100ff). At Piercebridge, there is little evidence for the deposition of objects in the Late Iron Age[56] and it is therefore plausible that the arrival of the army provided the impetus for deposition on a large scale. Indeed, the late second and early third century emphasis of coins and other finds from the river coincides with the chronology of military involvement in the parish suggested by the excavations.

Analysis of the objects from the river assemblage also indicates substantial military involvement in the deposition of objects. When the assemblage is classified using Crummy's functional categories (Crummy 1983) military equipment accounts for 20% of all material recorded as Figure 120 illustrates. In addition to these specific items of military equipment, there are also numerous finds with military associations assigned to the categories of 'Personal Adornment' and 'Writing'. These include 20 third century knee brooches[57] and eight lead sealings with the legend LVI (*Legio Sexta).*

It is evident that despite the dominance of military objects, soldiers were not the only agents involved in the deposition of objects in the river. Thirty silver, copper alloy and bone hair pins, as well as nine gold earrings and necklace fragments attest to the presence of female devotees, whilst the incidence of numerous small copper alloy bracelets suggest that children may have also made offerings. Whether these finds represent the offerings of wives and

sanctuary at Karden on the Mosel, 'many thousands' of lead discs have been recovered, the majority of which were undecorated (Kiernan 2009, 157).

[56] There are only two Iron Age objects recorded in the river assemblage – a copper alloy cosmetic grinder and an iron mirror handle.

[57] Knee brooches are not common in Britain and are associated with military activity on the German *limes.* At Catterick, their presence was interpreted as a reflection of an influx of soldiers from elsewhere (Mackreth 2002, 154) whilst Hattatt observed that Continental and British types of knee brooch had strong military associations (Hattatt 1987, 261-2).

dependants of soldiers participating in a military cult or those of the wider native population at Piercebridge is impossible to establish.

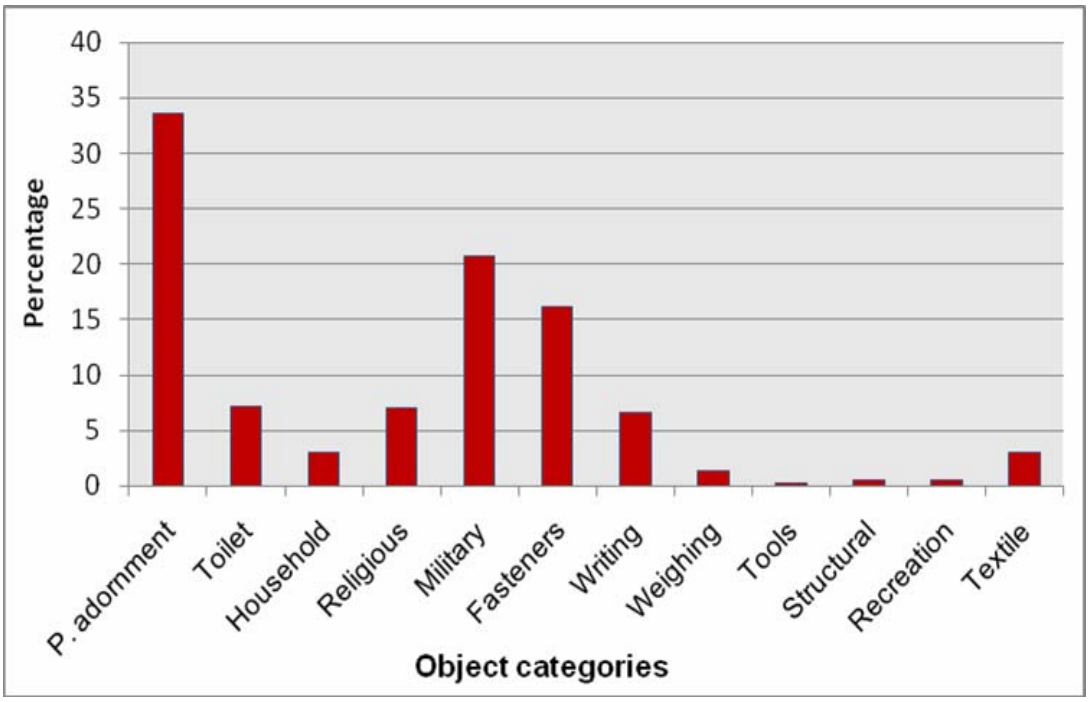


Figure 120: The percentage of each functional category in the DUR0007 assemblage

10.11 Conclusions and further work

This chapter has analysed the coin assemblage from the River Tees at Piercebridge and demonstrated that such analysis can provide a compelling narrative for a site. Numerical analysis has illustrated the unusual composition of the assemblage both chronologically and in its denominational make up. Furthermore, it has provided a potential chronology for deposition that suggests that whilst coins may have been offered from the mid to late second century AD, activity was at its most concentrated in the early third century.

However, this chapter has also emphasised that a simple reliance on numerical and statistical analysis to establish the function of a site is misguided. Like many temple and votive sites, the composition of the river

assemblage reflects the coinage available to devotees at the time of deposition and there is no identifiable 'votive' signature of coin loss. An examination of the treatment of individual coins and their relationship with other objects is therefore recommended. The presence of mutilated issues and a substitutional lead coinage suggest the importation of 'foreign' religious practices, whilst the juxtaposition of counterfeit Severan coinage with third century military equipment is striking.

The physical proximity between the find-spot of the assemblage and the location of the early Roman bridge carrying Dere Street across the River Tees is also thought-provoking. It has been argued that this bridge was destroyed at the end of the second century AD, leading to the diversion of Dere Street and the construction of another downstream. However, both the chronology of deposition and the C-14 date argue against such an interpretation, suggesting that the early bridge continued in existence in some capacity into the third century AD. Could it be that the establishment of a significant religious site on or under this bridge (or its conversion to a votive platform) was responsible for the road diversion and new bridge's construction?

Chapter 11

Conclusions and recommendations for further work

11 Introduction

This thesis comprises a collection of case studies, intended to illustrate the potential of Roman coin data recorded by the PAS, as a tool for understanding Roman Britain. As each case study presents its own set of conclusions, this chapter does not aim to repeat them. Instead, it assesses the validity of the PAS dataset and explores how the research presented in each chapter contributes to debate on a variety of themes current in Romano-British studies. It also outlines a range of avenues for further research.

11.1 The validity of the PAS dataset

Some doubts have been voiced regarding the validity of the Roman coin data recorded by the PAS due to the number of biases and constraints to which it is subject (Casey *pers. comm.*). This thesis has not overlooked these biases and constraints. In Chapter 3, they were reviewed and each case study noted their potential impact on the distribution of data and its interpretation. For example, in Chapter 8, the dearth of Period 21 coinage from North Norfolk was cautiously interpreted as the result of ancient activity, although the possibility that it might be a reflection of selective recording by the Scheme in that area was not discounted. Despite these biases, the dataset has proved itself to be a valid and viable resource for the study of coin loss throughout England and within individual regions. Mean values calculated using PAS data compare favourably with Reece's British Mean (Reece 1995), and a range of patterns with archaeological significance have been observed throughout the landscape of the province. However, it should be acknowledged that detailed regional and site-specific investigation was restricted to studies of the Isle of Wight and Piercebridge where the accuracy of the data used could be confirmed. Due to the impact of various biases and constraints, such as the selection of individual issues for recording, and the variable accuracy of findspot data, further case studies of such a nature were avoided. However, it is envisaged that the

continued development of the PAS and the campaign by Sam Moorhead, National Finds Advisor for Iron Age and Roman coins to get detector users to present all coins, regardless of denomination or date, for recording will enable more detailed assessment of coin loss at a national, regional and site specifici level in the future. Indeed, as coins are recorded to increasing levels of accuracy, analysis of the chronology of coin loss in Britain, may be investigated using year of issue or reverse types, rather than the Reece period framework.

11.2 Interpreting national and regional patterns of coin loss

Examination of a full range of coin data from the province has confirmed that there is a pattern of coin loss which is peculiar to Roman Britain, to which every region and site more or less conforms (Casey 1974, 37; Reece 1987a, 80; Reece 1995, 179). However, within this overall pattern, it is clear that there is also a significant degree of regional variation in the quantity, chronology and range of denominations lost. As a result, coinage offers an insight into regionality within the province, independent of those presented by studies of Roman settlement type (Taylor 2007) and personal adornment (Eckhardt and Crummy 2006; Laycock 2008; McIntosh 2010)

11.2.1 Regional patterns

Of particular interest is the contrast between patterns of coin loss in northern and southern Britain, demonstrated in Chapter 4. Northern Britain exhibits a pattern of coin loss reminiscent of *Barbaricum*. The number of coins and parish assemblages recorded is very small and in the first to third centuries, the *denarius* is by far the most common denomination. In southern Britain, coin loss is prolific and both silver and bronze denominations are recorded in quantity. However, the north/south divide is not the only point of difference and even within the southern zone, there is variation in the composition of assemblages from different regions. This variation was touched upon in Chapter 4, when *per mill* profiles for several counties were

presented and was clearly illustrated in Chapter 9, where patterns of coin loss from Hampshire and the Isle of Wight were contrasted.

Whilst recognising regional variation in patterns of coin loss is relatively simple, accounting for the factors which may have been responsible for their creation is far more difficult. However, it is likely that it is linked to the function and users of coinage in a particular area, or at a particular time, as demonstrated by several case studies. For example, Chapter 4 advanced the theory that the dominance of *denarii* in northern Britain reflected both the presence of a campaigning army and native attitudes to silver and bronze coinage. Chapter 9 suggested that average numbers of coins from Eastern and Central Roman mints on the Isle of Wight, was indicative of direct, or indirect trading links with the Mediterranean littoral. Meanwhile, Chapter 10 argued that the denominational composition of the votive deposit at Piercebridge, County Durham was intimately connected, not only to the wealth of devotees, but also to its date of deposition in the early third century AD.

11.2.2 'Romanisation' and 'monetisation'

In the past, scholars have used regional variation in coin use as a measure of the 'Romanisation' of a particular area and the extent of Roman rule (Rivet 1964, 116; Wacher 1978, 136; Reece 1988a, 6, Esmonde Cleary 1989, 94). However, as no simple definition exists for the concept, discussion of 'Romanisation' as expressed through the distribution of coinage is avoided here. Instead, the degree to which Roman Britain was monetised can be explored. The word 'monetisation' is often used by numismatists to describe an economy in which coins fulfilled a monetary function in commercial transactions. However, here it is used to mean habitual coin use, without any comment on whether these coins were being

used as money.[58] The distribution and density of coin loss in southern and eastern Britain indicates that it was in some sense 'monetised', but there are large areas of northern and western Britain which are either devoid of coinage, or exhibit very limited coin loss throughout the Roman period. It was therefore possible to live within a Roman province, to be a Roman citizen and pay taxes (in kind?) and yet rarely come into contact with coinage.

Furthermore, it appears that it was not Roman occupation that provided the impetus for 'monetisation'. Indeed, when the distribution of coinage recorded by the PAS for the Late Iron Age, Period 14 (AD 285-296), Period 21 (AD 388-402) and the Early Medieval period is compared, in Figure 121, it is striking how similar the patterns are. The regions which used coinage in the Late Iron Age were essentially the same as those which used it in the Roman period and beyond. Such an observation raises a number of questions regarding the function of coinage in the Roman period. For example, does the similarity in distribution patterns indicate that coinage fulfilled the same function or functions over more than six hundred years? Or might the massive increase in the quantity of coinage lost in the late third and fourth century, accompanied by a decrease in the value of individual coins mark a broadening of function, from a tool for paying taxes to one suitable for undertaking market transactions (Millett 1990, 169, Mattingly 2006, 497, Reece 1973, 251 and 1988b; and Esmonde Cleary 1989, 96).

[58] Guest 2008g, 43 defines 'monetisation' in a similar manner when investigating the distribution of coinage in Roman Wales.

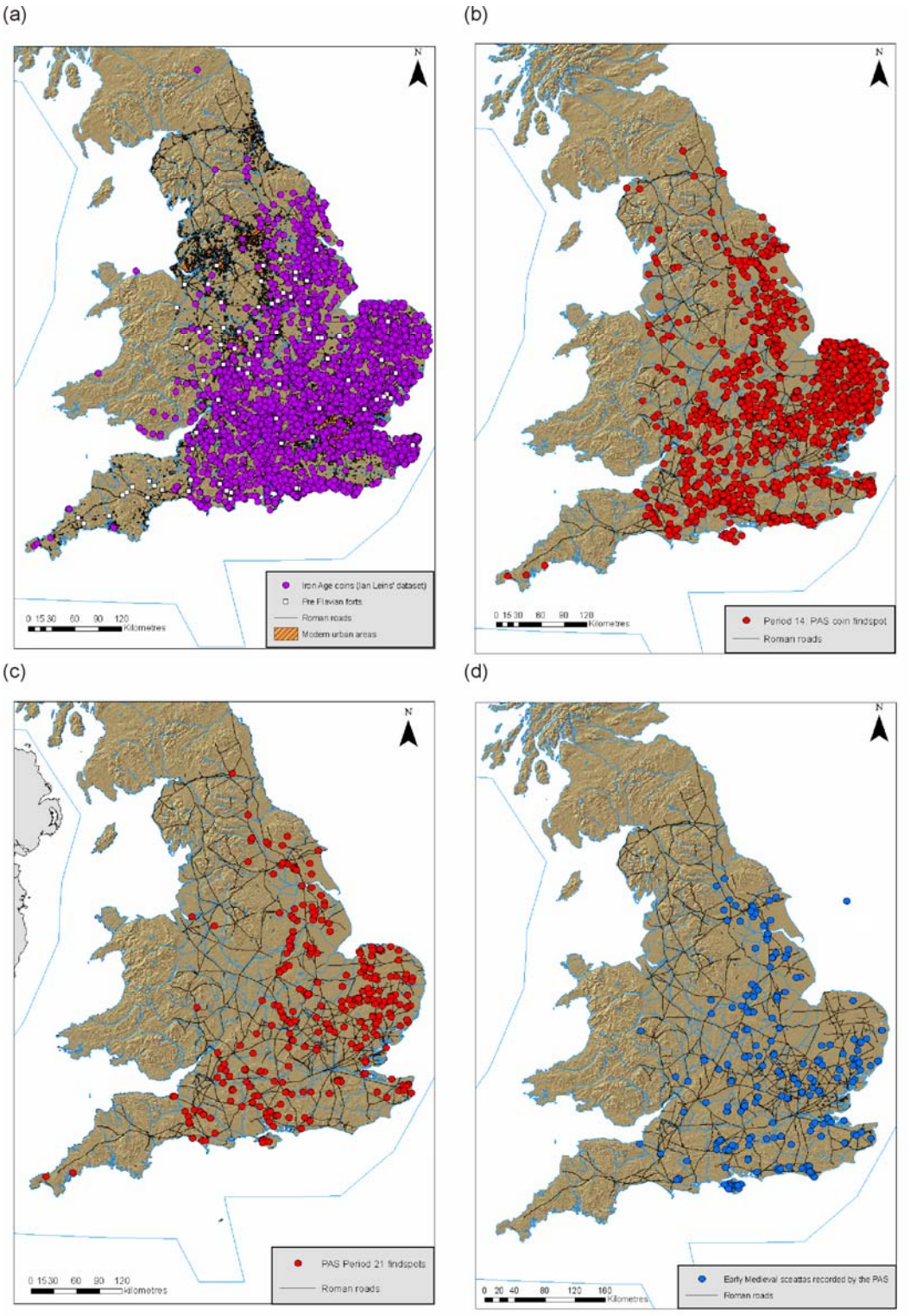


Figure 121: The distribution of (a) Iron Age coinage; (b) Period 14 (AD 285-296) coinage Period 21 (AD 388-402) coinage and (d) Early Medieval *sceattas* recorded by the PAS

11.2.3 Populating the Roman landscape

Although the distribution of Roman coinage recorded by the PAS cannot be used as a measure of 'Romanisation', it can be employed to trace the routes of Roman roads and to indicate the potential locations of settlement activity during the Roman period, particularly in areas where there has been little archaeological excavation or survey. Indeed, a simple comparison of the distribution of all PAS Roman coin data with Roman monument records provided by English Heritage, presented in Figure 122, illustrates this successfully. In areas such as East Anglia and North Yorkshire, the volume of coin loss suggests a far greater density of settlement activity than English Heritage records suggest. Obviously, further investigation is necessary in order to establish the nature and chronology of activity associated with coin loss and it should be stressed, as discussed in the previous section, that an absence of coinage does not necessarily indicate an absence of Roman activity.

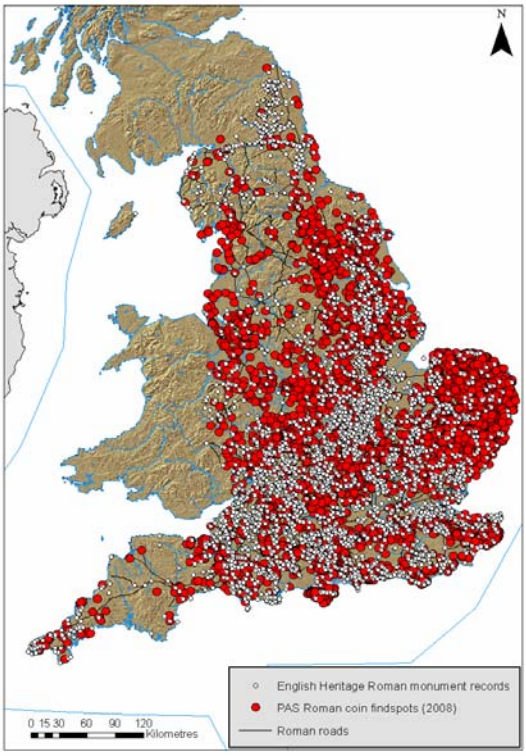


Figure 122: The distribution of all Roman coins recorded by the PAS compared with the distribution of English Heritage Roman monument records

The primary focus of this thesis has been on surveying national and regional patterns of coin loss, rather than on the identification of new sites within the landscape. However, Chapter 9, which investigated coin loss on the Isle of Wight, has indicated the potential for such study, in regions where the data are accompanied by accurate findspot information. Indeed, clusters of coins at a sub-parish level indicated the locations of thirty new sites of Roman activity and provided additional information about seven already known to the Historic Environment Record. Meanwhile, Chapter 10 analysed an assemblage of coins and objects from the River Tees at Piercebridge, County Durham. Whilst Piercebridge is well known for its Roman fort and small town, this votive deposit of obvious national importance, has significantly augmented understanding of the development of the site.

11.3 Interpreting site-specific patterns of coin loss

The collection of a comparative dataset where the function of individual sites is known has also enabled some broader investigation of the relationship between coin profile and site function. This has confirmed that the chronological profile of a site is undoubtedly influenced by its function, with the Cluster Analysis proving a particularly effective tool in this regard. It has identified coherence in patterns of coin loss for a range of sites including first century military installations (H30 Group 10) in Chapter 5, and late Roman watchtowers (H30 Group 16) in Chapter 8. However, the variety of site types in each Cluster Analysis group demonstrates the limitations of using coin profiles alone to ascertain site function. Indeed, as Chapter 10 concluded, assessing the size of the assemblage, the treatment of individual coins and their relationship with other artefact types are all fundamental to reaching the fullest understanding of the chronology of a site and its function.

11.4 Recommendations for further work

Due to the size of the dataset used in this thesis and the complexity of the patterns it produces, the research presented here only represents a small portion of what could be achieved. There is immense potential for further study on a wide range of topics at a national, regional and site-specific level.

11.4.1 Creating a dataset for *Britannia*

A total of 57,993 coins recorded by the PAS were used in this thesis. Since data collection ceased in March 2008, a further 32,466 Roman coins from England have been recorded on the PAS database.[59] To this, the 53,165 coins collected by the *Iron Age and Roman Coins from Wales* project (Guest 2008g) can also be added, following their incorporation into the PAS database. Figure 123 compares the distribution of all coins recorded by March 2008 with those recorded by December 2010. As it stands now, this enhanced dataset of 143,624 coins, offers an unrivalled opportunity to study patterns of Roman coin loss in England and Wales and to re-evaluate many of the conclusions reached in this thesis. However, until data from Scotland is incorporated, it will not be possible to analyse patterns of coin supply, use and loss for the entire province of *Britannia*. It is therefore recommended that a database of Roman coin finds from Scotland is compiled to enable such study to take place.

[59] This was the result of a query of the PAS database (www.finds.org.uk) on the 10.12.10.

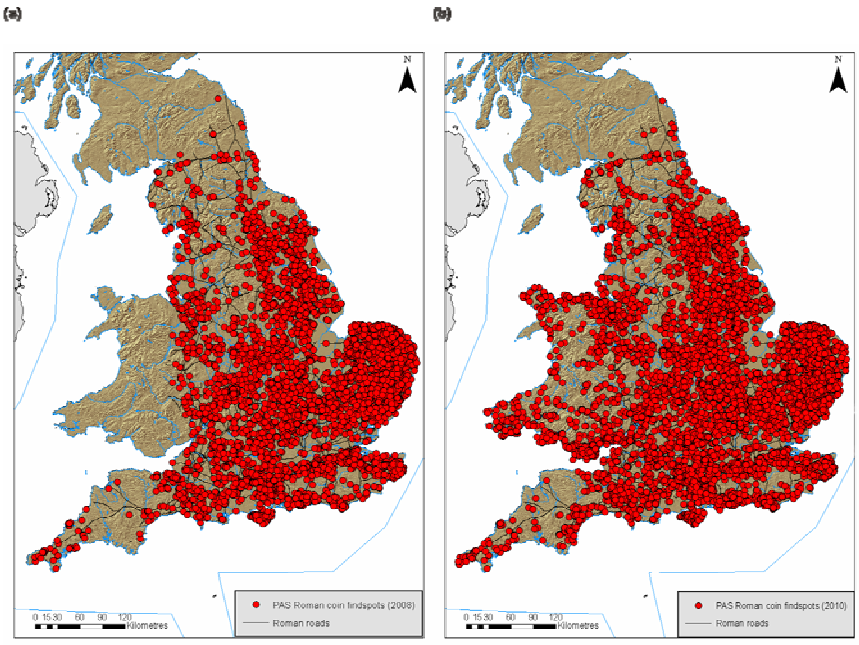


Figure 123: (a) Findspots of Roman coins recorded by the PAS between 1997 and 2008 and (b) between 1997 and 2010

11.4.2 Period-specific case studies

The period-specific case studies presented here provide snapshots of patterns of coin loss at some of the key moments during the history of Roman Britain. Due to the scope of this thesis, only nine Reece periods (Periods 1, 2, 13, 14, 17, 18, 19, 20, and 21) were examined in any detail and there is potential for numerous further period-specific case studies to be undertaken. These could include a survey of second century 'Coins of British Association', building on the work of previous scholars (Hobley 1998; Walker 1988) or an analysis of the phenomenon of *denarius* copying in the Severan period.

11.4.3 Regional case studies

Due to the variable quality of findspot data in March 2008, only one regional case study was included in this thesis. However, with the significant increase in both the quantity and quality of data recorded, there is now considerable scope for further regional analyses and to employ methods such as kernel density analysis to identify 'sites' at a sub-parish level. Whilst

numerous counties including Lincolnshire and Hampshire could be the subject of such regional case studies, a simple scoping exercise for the East Riding of Yorkshire demonstrates how PAS Roman coin data could contribute significantly to understanding of a single area during the Roman period.

At the time of data collection for this thesis, only three published coin assemblages existed for the East Riding of Yorkshire. These assemblages were supplemented by a PAS dataset of 2,293 coins for the county, whilst a total of 12 parishes possessed assemblages of 20 or more coins. However, in December 2010, the total number of coins and parishes recorded has more than doubled at 4,762 and 33 parishes respectively. A visual comparison of the 2008 and 2010 datasets of all coin losses and parish profiles presented in Figure 124 and Figure 125 emphasises the potential of the new dataset.

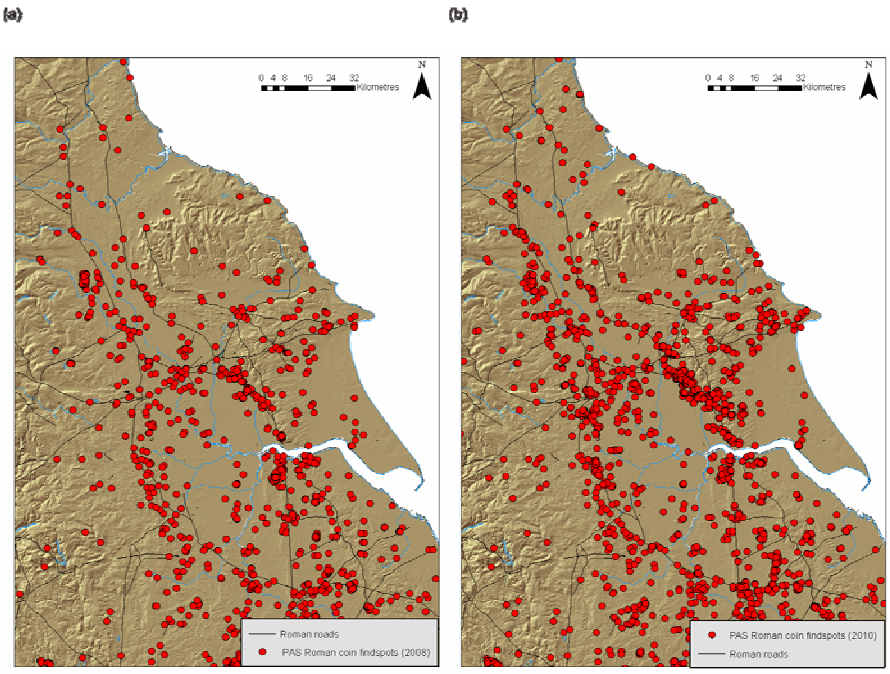


Figure 124: The distribution of (a) Roman coinage recorded in Yorkshire, Nottinghamshire, Derbyshire and Lincolnshire by the PAS between 1997 and 2008 compared with (b) the distribution of Roman coinage recorded in the same counties by the PAS between 1997 and 2010

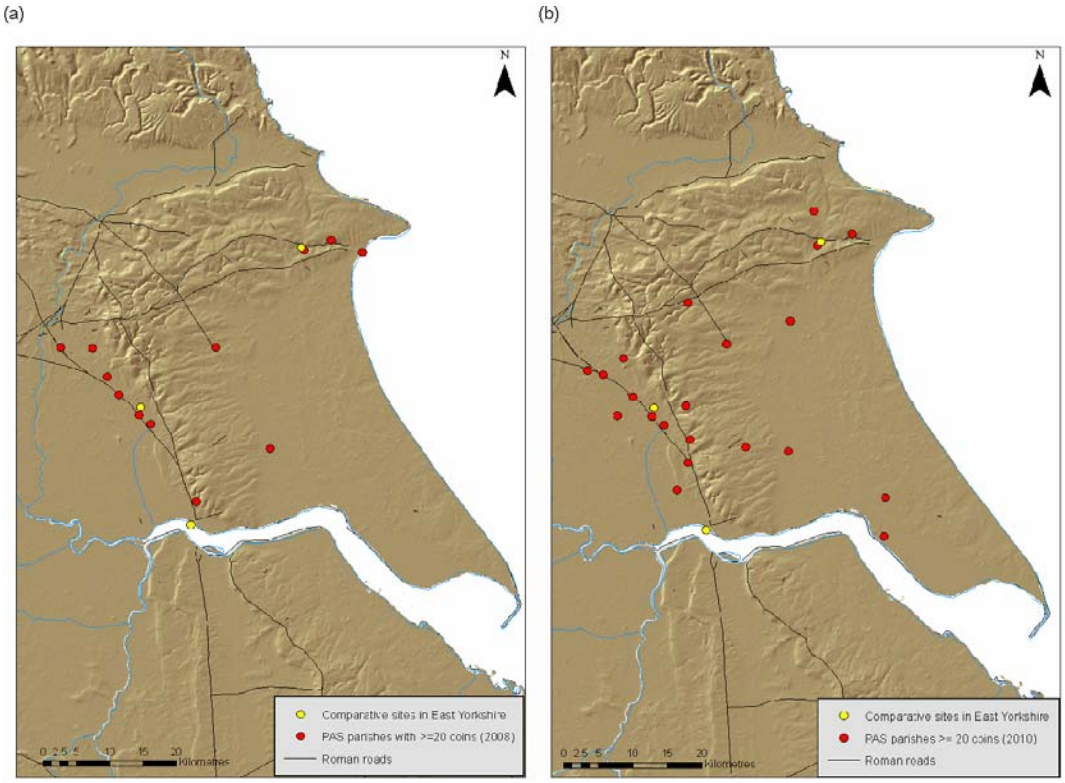


Figure 125: The distribution of (a) PAS parishes and comparative sites recorded in East Yorkshire between 1997 and 2008 and (b) between 1997 and 2010

In addition to providing new data for consideration in some areas, the enhanced dataset also reinforces the conclusion that there was limited coin use and loss in regions such as the South West and the North West. Counties such as Devon, Cornwall and Cumbria are dominated by patterns of stray loss and do not produce parish profiles of twenty or more coins. This renders numerical and statistical analyses impossible. It is therefore desirable that new methodologies are developed to assess variable coin loss in these areas so that they can be compared and contrasted.

11.4.4 Site-specific research

There is also scope for several case studies analysing large, individual assemblages of coins. Within the dataset used in this thesis, a total of nine

parishes were identified which possessed assemblages of more than 500 coins.[60] This total is likely to have risen substantially within the past two years, to include sites such as Osbournby, Lincolnshire, where more than 1,500 coins and 450 objects have been recorded (Daubney *pers. comm*.). The size of their assemblages enables detailed denominational and chronological study which may contribute to the understanding of the function of the site and its development within the wider landscape. It was noted during preliminary data analysis, that four of the assemblages with large coin assemblages (Thonock; Ashwell; West Lavington and Piercebridge) also possessed material of a votive nature such as cut brooches and miniature objects. A thorough investigation of the relationship between coinage, religion and votive deposition at provincial and intra-provincial level is to be recommended.

11.5 Conclusions

This thesis has illustrated the potential of the coin data recorded by the PAS as a tool for understanding Roman Britain and for rethinking many of the assumptions which have become engrained in its study. It is hoped that the conclusions presented here will stimulate discussion and will mark another step in the rehabilitation of numismatics in the study of the province of *Britannia*. It is intended as a foundation for further research, rather than as the final word.

[60] Thonock, Lincolnshire (517 coins); Ashwell, Hertfordshire (548 coins); West Lavington, Wiltshire (603 coins); Thoroton, Nottinghamshire (629 coins); Great Barton, Suffolk (659 coins); Shoudham, Norfolk (662 coins); Piercebridge, County Durham (832 coins); Hayton, East Riding of Yorkshire (1380 coins); Winteringham, North Lincolnshire (2942 coins).

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Appendix A: Comparative Sites

IDNO	Comp parishID	County	Reece Site type	More detailed site classification	h=20	h=30	Reference	Notes
C001	Bath Sacred Spring	Avon	Temple	Votive deposit	2	2	Walker (1988)	
C002	Bletsoe (cemetery)	Beds.	Cemetery		3	3	Dawson (1994)	
C003	Bletsoe (structures)	Beds.	Rural		7	3	Dawson (1994)	
C004	Marsh Leys Farm, Kempston	Beds	Rural		14	8	Guest (2008a)	
C005	Puddlehill	Beds	Rural		5	3	Matthews. and Warren (1992)	1 Phrygian coin from Hieropolis mint, dating to AD 211-217.
C006	Renhold	Beds	Rural		7	3	Booth (2007)	
C007	3 Locks, Stoke Hammond	Bucks.	Rural	Trackway and field system	7	3	Cannon (2000)	
C008	Bancroft Temple-mausoleum	Bucks.	Temple	Mausoleum	2	2	Davies (1994)	
C009	Fenny Lock, Milton Keynes	Bucks.	Rural	Iron Age and Roman	5	3	Cannon (2002)	Periods 217-60 - 2 coins, I have allocated one each to period 11 and 12
C010	Mantles Green, Amersham	Bucks.	Villa		5	3	King (1994)	The 29 1st-3rd century coins from the site have not been given Reece periods.
C011	Caldecotte	Bucks.	Rural		5	3	Reece and Zeepvat 1994	
C012	Haddon, Peterborough	Cambs.	Rural		7	3	Hinman (2003)	
C013	Castle Hill, Cambridge	Cambs.	Rural	Small town	2	2	Sekulla and Thoday (2000)	Seems to be duplication in list of nos. 133-138 and nos. 190-196. Removed one set of coins from analysis
C014	Great Staughton 1	Cambs.	Villa	Associated bath house	9	3	Carson (1994)	
C015	Great Staughton 2	Cambs.	Villa	Associated bath house	7	3	Carson (1994)	

IDNO	Comp parishID	County	Reece Site type	More detailed site classification	h=20	h=30	Reference	Notes
C016	Langwood Farm, Chatteris	Cambs.	Rural		1	1	Reece (2003b)	
C017	Little Paxton Quarry, Diddington	Cambs.	Temple	'shrine and settlement'	2	2	White (2001)	Only 14 coins
C018	Stonea Camp	Cambs	Rural	Iron Age centre with 1st century Roman Military presence	3	3	Shotter (1996a)	
C019	Stonea Grange casual	Cambs	Rural	Official centre with Hadrianic tower	4	4	Shotter (1996b)	
C020	Stonea Grange excavation	Cambs	Rural	Official centre with Hadrianic tower	2	2	Shotter (1996b)	
C021	Water Newton 44	Cambs.	Urban		5	3	Reece (1991b)	
C022	Wimpole	Cambs.	Rural		6	5	Butcher and Honeycombe (1995)	
C023	25 Bridge Street, Chester	Cheshire	Military	Urban	7	3	Guest (2008b)	
C024	Chester 122	Cheshire	Military		7	3	Reece (1991b)	Shotter (2000) for various sites in Chester, 76 not included for fear of duplication of much of Reece's entry
C025	Chester collections	Cheshire	Military		2	2	Shotter (2000) 45-52	
C026	Holt	Cheshire	Military		8	6	Shotter (2000) 89-95	
C027	Meols	Cheshire	Rural	Port	3	3	Shotter (2000) 100-101	
C028	Middlewich/Kinderton	Cheshire	Military	Unknown function. Shotter (2000) suggests a legionary-vexillation fort (p. 107)	9	3	Shotter (2000) 101-107	
C029	Duckpool,	Cornwall	Rural	Industrial and harbour	10	7	Davies (1995)	Discussion of trade routes using Cornish

IDNO	Comp parishID	County	Reece Site type	More detailed site classification	h=20	h=30	Reference	Notes
	Morwenstow			activity				rivers. Only 6 coins
C030	Trevelgue	Cornwall	Rural		10	7	Reece (1991b)	
C031	Bewcastle	Cumbria	Military		11	1	Shotter (1990) 49-50	
C032	Birdoswald	Cumbria	Military		12	4	Shotter (2000) 30-32	
C033	Brough under Stainmore	Cumbria	Military		13	1	Shotter (1990) 53-55	
C034	Carlisle totals	Cumbria	Military	Urban	14	8	Shotter (2000) 33	
C035	Castlesteads	Cumbria	Military		15	9	Shotter (1990) 77-79	
C036	Kirkby Thore	Cumbria	Military		7	3	Shotter (1990) 81-82; Shotter (2000) 35	
C037	Maryport	Cumbria	Military		2	2	Reece (1991b)	
C038	Maryport	Cumbria	Military		14	8	Shotter (1990) 83-87	
C039	Old Carlisle	Cumbria	Military		1	1	Shotter (2000) 35-37	
C040	Old Penrith	Cumbria	Military		1	1	Shotter (1990) 89-91	
C041	Papcastle	Cumbria	Military		16	10	Shotter (2000) 38-40	
C042	Ravensglass	Cumbria	Military		17	1	Shotter (1990) 95-96	
C043	Watercrook	Cumbria	Military		18	10	Shotter (1990) 98-101	
C044	Brough Field, Carsington	Derbyshire	Rural	'quasi-Urban' characteristics	10	7	Dearne (1995)	
C045	Little Chester	Derbyshire	Military	Accompanying civilian settlement	2	2	Reece (1991b)	
C046	NW sector, Little Chester	Derbyshire	Military	Accompanying civilian settlement	19	6	Davies (2000)	
C047	Pickfords Garage, Little Chester	Derbyshire	Military	Accompanying civilian settlement	14	8	Davies (2000)	
C048	SE defences and	Derbyshire	Military	Accompanying civilian	20	9	Sparey-Green (2002)	Uses Casey periods

IDNO	Comp parishID	County	Reece Site type	More detailed site classification	h=20	h=30	Reference	Notes
	extra-mural, Little Chester			settlement				
C049	Exeter 10	Devon	Urban		13	1	Reece (1991b)	
C050	Exeter 11	Devon	Urban		1	1	Reece (1991b)	
C051	Exeter 12	Devon	Urban		18	10	Reece (1991b)	
C052	Dewlish 103	Dorset	Villa		1	1	Reece (1991b)	
C053	Dorchester 16	Dorset	Urban		17	1	Reece (1991b)	
C054	Dorchester 17	Dorset	Urban		21	9	Reece (1991b)	
C055	Dorchester 18	Dorset	Urban		21	9	Reece (1991b)	
C056	Dorchester 19	Dorset	Urban		15	9	Reece (1991b)	
C057	Dorchester county H 1 to 3	Dorset	Urban		22	10	Cooke (2008k)	
C058	Dorchester hospital 4	Dorset	Urban		20	9	Cooke (2008j)	
C059	Halstock villa	Dorset	Villa		23	1	Reece (1993b)	
C060	Ilchester 33	Dorset	Urban		14	8	Reece (1991b)	
C061	Jordans Hill 135	Dorset	Temple		24	4	Reece (1991b)	
C062	Binchester	Durham	Military		17	1	Cooke (2008o)	
C063	Binchester 117	Durham	Military		4	4	Reece (1991b)	
C064	Chester le Street	Durham	Military		25	1	Brickstock (1993)	
C065	Greta Bridge	Durham	Military		25	1	Casey. and Hoffmann (1998)	
C066	Piercebridge 116	Durham	Military		25	1	Reece (1991b)	
C067	Brough on Humber 47	East Yorkshire	Urban		2	2	Reece (1991b)	
C068	Rudston 108	East Yorkshire	Villa		9	3	Reece (1991b)	
C069	Shiptonthorpe (excavations and metal detecting)	East Yorkshire	Rural		3	3	Sitch (2006)	

IDNO	Comp parishID	County	Reece Site type	More detailed site classification	h=20	h=30	Reference	Notes
C070	Angel Yard, Colchester	Essex	Urban		3	3	Davies (1996)	Speculation that assemblage contains dispersed hoard of Antonine to late 3rd century coins
C071	Balkerne Heights, Colchester	Essex	Urban		14	8	Cooke (2008m)	
C072	Braintree 72	Essex	Rural		26	8	Reece (1991b)	
C073	Chelmsford 69	Essex	Rural		27	11	Reece (1991b)	
C074	Chelmsford Temple 132	Essex	Temple		28	8	Reece (1991b)	
C075	Chignall Roman villa	Essex	Villa		29	2	Clarke with Reece (1998)	
C076	Colchester Balkerne Lane 37	Essex	Urban		27	11	Reece (1991b)	
C077	Colchester Butt Road 36	Essex	Urban		30	3	Reece (1991b)	
C078	Colchester Lion Walk 35	Essex	Urban		5	3	Reece (1991b)	
C079	Colchester museum 34	Essex	Urban		13	1	Reece (1991b)	
C080	Colchester small sites 38	Essex	Urban		31	1	Reece (1991b)	
C081	Elms Farm, Weybridge	Essex	Rural		3	3	Guest (2008c)	
C082	Gestingthorpe 95	Essex	Villa		28	8	Reece (1991b)	
C083	Great Holts Farm, Boreham	Essex	Rural		14	8	Toomey (2003)	
C084	Harlow Temple	Essex	Temple		7	3	Gobel (1985)	
C085	Ivy Chimneys	Essex	Temple		32	8	Turner (1999)	

IDNO	Comp parishID	County	Reece Site type	More detailed site classification	h=20	h=30	Reference	Notes
C086	Kelvedon 73	Essex	Rural		17	1	Reece (1991b)	
C087	Stansted	Essex	Rural		14	8	Cooke (2008g)	
C088	Wickford 60	Essex	Rural		28	8	Reece (1991b)	
C089	Barnsley Park 93	Gloucs.	Villa		2	2	Reece (1991b)	
C090	Birdlip Quarry	Gloucs.	Rural		28	8	Davies (1999b)	
C091	Chedworth Villa	Gloucs.	Villa		14	8	Reece (1959)	
C092	Cirencester Beeches Road 41	Gloucs.	Urban		7	3	Reece (1991b)	
C093	Cirencester cemetery/amphitheatre 40	Gloucs.	Urban		14	8	Reece (1991b)	
C094	Cirencester cinema	Gloucs.	Urban		14	8	Booth (2008a)	
C095	Cirencester Museum 39	Gloucs.	Urban		13	1	Reece (1991b)	
C096	Cirencester smaller sites 43	Gloucs.	Urban		5	3	Reece (1991b)	
C097	Cirencester St Michaels 42	Gloucs.	Urban		3	3	Reece (1991b)	
C098	Coln St Aldwyns 75	Gloucs.	Rural		5	3	Reece (1991b)	
C099	Dorn 86	Gloucs.	Rural		25	1	Reece (1991b)	
C100	Frocester Court 94	Gloucs.	Villa		32	8	Reece (1991b)	
C101	Gloucester 13	Gloucs.	Urban		13	1	Reece (1991b)	
C102	Gloucester 14	Gloucs.	Urban		33	3	Reece (1991b)	
C103	Gloucester 15	Gloucs.	Urban		4	4	Reece (1991b)	
C104	Great Witcombe (Clifford)	Gloucs.	Villa		7	3	Davies (1998b)	

IDNO	Comp parishID	County	Reece Site type	More detailed site classification	h=20	h=30	Reference	Notes
C105	Great Witcombe (greenfield)	Gloucs.	Villa		3	3	Davies (1998b)	
C106	Kingscote 66	Gloucs.	Rural		2	2	Reece (1991b)	
C107	Kingscote 67	Gloucs.	Rural		2	2	Reece (1991b)	
C108	Kingscote fieldwalking 68	Gloucs.	Rural		5	3	Reece (1991b)	
C109	Kingsholm Close, Gloucester	Gloucs.	Urban?		2	2	Pitts (1985)	
C110	Lawrence Weston	Gloucs.	Rural		9	3	Clarke and Sugden (1999)	small hoard equating to 1 period 6, 1 period 8, 1 period 10…
C111	Lydney 137	Gloucs.	Temple		9	3	Reece (1991b)	
C112	Lydney 138	Gloucs.	Temple		34	12	Reece (1991b)	
C113	Roughground Farm, Lechlade	Gloucs.	Villa		7	3	King (1993)	
C114	Sea Mills	Gloucs.	Rural		29	2	Dawson 1987	
C115	Turkdean villa	Gloucs.	Villa		7	3	Guest (2004)	The coins were recovered from the uppermost levels of the excavation and the spoil heaps - they can't cast much light on the earlier history of the complex.
C116	Uley 140	Gloucs.	Temple		9	3	Reece (1991b)	
C117	Whittington Court	Gloucs.	Villa		5	3	O'Neil, St J. (1952)	
C118	Ashton 80	Northants.	Rural		7	3	Reece (1991b)	
C119	Ashton 81	Northants.	Rural		2	2	Reece (1991b)	
C120	Balksbury Camp	Hants.	Rural		7	3	Curnow (1995)	
C121	East Anton 85	Hants.	Rural		2	2	Reece (1991b)	
C122	Holybourne	Hants.	Rural	Small town	30	3	Cooke (2008n)	

IDNO	Comp parishID	County	Reece Site type	More detailed site classification	h=20	h=30	Reference	Notes
C123	Holybourne, Alton	Hants.	Rural	Small town	5	3	Merson (1991)	
C124	Jewry Street Winchester	Hants.	Urban		35	1	Cooke (2008i)	
C125	Manor Cottages, Neatham, Alton	Hants.	Rural	Small town	32	8	Merson (1990)	
C126	Portchester 118	Hants	Military		7	3	Reece (1991b)	
C127	Rockbourne 97	Hants.	Villa		7	3	Reece (1991b)	
C128	Silchester 45	Hants.	Urban		7	3	Reece (1991b)	
C129	Suddern Farm, Middle Wallop	Hants.	Rural		14	8	King (2000).	
C130	Winchester 20	Hants.	Urban		2	2	Reece (1991b)	
C131	Winchester 21	Hants.	Urban		2	2	Reece (1991b)	
C132	Winchester 22	Hants.	Urban		34	12	Reece (1991b)	
C133	Winchester AY 93	Hants.	Urban		9	3	Booth (2008)	
C134	Kenchester 87	Herefordshire	Rural		2	2	Reece (1991b)	
C135	Baldock	Herts.	Rural		5	3	Guest (2008d)	
C136	Boxfield Farm, Chells, Stevenage	Herts.	Rural		7	3	Corney (1999)	
C137	Boxmoor 109	Herts.	Villa		32	8	Reece (1991b)	
C138	Cow Roast Marina 78	Herts.	Rural		7	3	Reece (1991b)	
C139	Cow Roast Orchard 77	Herts.	Rural		32	8	Reece (1991b)	
C140	Dickets Mead 96	Herts.	Villa		3	3	Reece (1991b)	
C141	Foxholes Farm	Herts.	Rural	Some industrial function	7	3	Reece (1989)	
C142	Friars Wash,	Herts.	Temple		5	3	Cooke (2008t)	
C143	Gadebridge 104	Herts.	Villa		5	3	Reece (1991b)	

IDNO	Comp parishID	County	Reece Site type	More detailed site classification	h=20	h=30	Reference	Notes
C144	Ninesprings, Great Wymondley	Herts.	Villa		36	2	Curteis (1996)	**also from site hoard of 67 radiates**
C145	Puckeridge-Braughing	Herts.	Rural	Small town	3	3	Shotter and Partridge (1988)	
C146	Verulamium Frere 6	Herts.	Urban		3	3	Reece (1991b)	
C147	Verulamium Theatre	Herts.	Urban		5	3	Reece (1991b)	
C148	Verulamium Verulam 7	Herts.	Urban		33	3	Reece (1991b)	
C149	Verulamium Wheeler 8	Herts.	Urban		3	3	Reece (1991b)	
C150	Ware 82	Herts.	Rural		9	3	Reece (1991b)	
C151	Watton at Stone 83	Herts.	Rural		5	3	Reece (1991b)	
C152	Watton-at-Stone 84	Herts.	Rural		28	8	Reece (1991b)	
C153	Canterbury 27	Kent	Urban		14	8	Reece (1991b)	
C154	Canterbury 28	Kent	Urban		9	3	Reece (1991b)	
C155	Canterbury 29	Kent	Urban		28	8	Reece (1991b)	
C156	Canterbury 30	Kent	Urban		7	3	Reece (1991b)	
C157	Ebbsfleet (Areas 9a and b)	Kent	Villa		3	3	Wren (1992)	
C158	Eccles 102	Kent	Villa		5	3	Reece (1991b)	
C159	Lullingstone 92	Kent	Villa		5	3	Reece (1991b)	
C160	Lympne 120	Kent	Military		14	8	Reece (1991b)	
C161	Minster in Thanet	Kent	Villa		14	8	Holman and Parfitt (2005)	
C162	Northfleet	Kent	Rural		7	3	Cooke (2008s)	
C163	Reculver	Kent	Military		3	3	Reece (2005)	
C164	Richborough 119	Kent	Military		4	4	Reece (1991b)	
C165	Springhead CTRL	Kent	Urban	Temple and Military	7	3	Cooke (2008p)	
C166	Springhead nurseries	Kent	Urban	Temple and Military	37	3	Cooke (2008q)	
C167	Springhead small sites	Kent	Urban	Temple and Military	7	3	Cooke (2008r)	

IDNO	Comp parishID	County	Reece Site type	More detailed site classification	h=20	h=30	Reference	Notes
C168	Syndale Park, Ospringe	Kent	Rural		5	3	Cooke (2008e)	
C169	Thurnham	Kent	Villa		7	3	Booth (2008c)	
C170	Keston	Kent	Villa		37	3	Reece (1991a)	
C171	Orpington	Kent	Villa		3	3	Philp (1996)	
C172	Westhawk Farm	Kent	Rural	Roadside settlement and shrine	7	3	Guest (2008f)	
C173	Westhawk Farm metal detecting	Kent	Rural	Roadside settlement and shrine	14	8	Guest (2008f)	
C174	Burrow in Lonsdale	Lancs.	Military		7	3	Shotter (1990) 13-14.	
C175	Lancaster	Lancs.	Military	Extra-mural settlement	3	3	Shotter (2000), 18-22	
C176	Ribchester 129	Lancs.	Military		2	2	Reece (1991b)	
C177	Walton-Le-Dale	Lancs.	Military		5	3	Shotter (2000) 24-25	
C178	Wilderspool	Lancs.	Rural	Small town?	28	8	Carson (1992)	
C179	Causeway Lane, Leicester	Leics.	Urban		34	12	Davies (1999c)	
C180	Leicester Jewry Wall 26	Leics.	Urban		35	1	Reece (1991b)	
C181	Lincoln 1	Lincs.	Urban		14	8	Reece (1991b)	
C182	Lincoln Flaxengate 3	Lincs.	Urban		14	8	Reece (1991b)	
C183	Lincoln St Marks 4	Lincs.	Urban		7	3	Reece (1991b)	
C184	Lincoln the park 2	Lincs.	Urban		14	8	Reece (1991b)	
C185	Lincoln various 5	Lincs.	Urban		5	3	Reece (1991b)	
C186	Old Winteringham 128	Lincs.	Military		29	2	Reece (1991b)	
C187	Pasture Lodge Farm, Long Bennington	Lincs.	Rural		15	9	Gregory (1994)	

IDNO	Comp parishID	County	Reece Site type	More detailed site classification	h=20	h=30	Reference	Notes
C188	Sapperton 76	Lincs.	Rural		1	1	Reece (1991b)	
C189	Sudbrooke	Lincs.	Villa		15	9	Daubney (2009b)	
C190	West Deeping	Lincs.	Villa		13	1	Anon (2008)	
C191	Winterton 98	Lincs.	Villa		20	9	Reece (1991b)	
C192	Bow/ Old Ford site	London	Urban		22	10	Gerrard (2008a)	
C193	Fenchurch Street	London	Urban		22	10	Cooke (2008f)	
C194	Heathrow Terminal 5	London	Urban		14	8	Cooke (2008h)	
C195	HGA02, Shadwell	London	Urban		14	8	Gerrard (2008b)	
C196	London excavations 32	London	Urban		14	8	Reece (1991b)	
C197	London Guildhall 31	London	Urban		3	3	Reece (1991b)	
C198	Roman Quay, St Magnus House	London	Urban		5	3	Hall (1986)	
C199	Roman Tower, Shadwell	London	Urban		7	3	Hammerson (2002)	
C200	Southwark (8 sites)	London	Urban		5	3	Hammerson (1992) ‘	Caracalla and Severus Alexander were not separated so I allocated 12 to Period 10 and 11 to Period 11
C201	Southwark 50	London	Urban		5	3	Reece (1991b)	
C202	Temple of Mithras	London	Temple		2	2	Hall and Merrifield (1998)	
C203	TOC02, Shadwell	London	Urban		29	2	Gerrard (2008c)	
C204	Winchester Palace	London	Urban		9	3	Hammerson (2005)	
C205	Beachamwell	Norfolk	Rural		3	3	Davies and Gregory (1991)	
C206	Billingford	Norfolk	Rural		5	3	Davies and Gregory (1991)	
C207	Brampton	Norfolk	Urban		5	3	Davies and Gregory (1991)	
C208	Brancaster extra-mural	Norfolk	Military		38	13	Davies and Gregory (1991)	

IDNO	Comp parishID	County	Reece Site type	More detailed site classification	h=20	h=30	Reference	Notes
C209	Brancaster intra-mural	Norfolk	Military		7	3	Davies and Gregory (1991)	
C210	Brettenham	Norfolk	Rural		32	8	Davies and Gregory (1991)	
C211	Caister by Yarmouth excavation	Norfolk	Military		25	1	Davies and Gregory (1991)	
C212	Caister by Yarmouth extra mural	Norfolk	Military		11	1	Davies and Gregory (1991)	
C213	Caister by Yarmouth finds	Norfolk	Military		15	9	Davies and Gregory (1991)	
C214	Caistor by Norwich external 54	Norfolk	Urban		28	8	Reece (1991b)	
C215	Caistor by Norwich internal 53	Norfolk	Urban		11	1	Reece (1991b)	
C216	Caistor by Yarmouth 74	Norfolk	Military		11	1	Reece (1991b)	
C217	Crownthorpe	Norfolk	Temple		26	8	Davies and Gregory (1991)	
C218	Ditchingham	Norfolk	Rural		3	3	Davies and Gregory (1991)	
C219	Fison Way, Thetford	Norfolk	Temple		25	1	Davies and Gregory (1991)	
C220	Great Walsingham	Norfolk	Temple	Rural	7	3	Davies and Gregory (1991)	
C221	Hockwold 139	Norfolk	Temple		7	3	Reece (1991b)	May be some duplication of two sites below. Described as 'List prepared for publication provided by John Davies' p.8
C222	Hockwold cum Wilton, Leylands	Norfolk	Temple		14	8	Davies and Gregory (1991)	
C223	Hockwold cum Wilton, Sawbench	Norfolk	Temple		5	3	Davies and Gregory (1991)	
C224	Pentney	Norfolk	Rural		9	3	J. A. Davies and T. Gregory(1991)	

IDNO	Comp parishID	County	Reece Site type	More detailed site classification	h=20	h=30	Reference	Notes
C225	Snettisham Bypass	Norfolk	Rural		7	3	Davies, J. (2001)	
C226	Spong Hill	Norfolk	Rural		3	3	Davies and Gregory (1991)	
C227	Swanton Morley	Norfolk	Military		39	8	Davies and Gregory (1991)	
C228	Venta interior	Norfolk	Urban		3	3	Davies and Gregory (1991)	Typing error for Period 13 – only 22 coins recorded rather than 229. This site is therefore a duplicate of C 215.
C229	Venta park	Norfolk	Urban		7	3	Davies and Gregory (1991)	
C230	Venta south	Norfolk	Urban		5	3	Davies and Gregory (1991)	
C231	Venta Temple	Norfolk	Temple		5	3	Davies and Gregory (1991)	
C232	Venta west	Norfolk	Urban		14	8	Davies and Gregory (1991)	
C233	Woodcock Hall	Norfolk	Military		25	1	Davies and Gregory (1991)	
C234	Dragonby	North Lincs.	Rural		2	2	Laing (1996)	1 Calabrian Brundisium coin 155-91 BC
C235	Aldborough 46	North Yorks.	Urban		7	3	Reece (1991b)	
C236	Catterick RAF 1966	North Yorks.	Military		2	2	Brickstock, Casey and Davies (2002)	
C237	Catterick reg 1970	North Yorks.	Urban	Small town/military	2	2	Brickstock, Casey and Davies (2002)	
C238	Catterick site 240	North Yorks.	Urban	Small town/military	7	3	Brickstock, Casey and Davies, (2002)	
C239	Catterick site 251	North Yorks.	Urban	Small town/ military	12	4	Brickstock, Casey and Davies. (2002)	
C240	Catterick site 253	North Yorks.	Military		22	10	Brickstock, Casey and Davies (2002)	
C241	Catterick site 433	North Yorks.	Urban	Small town/military	5	3	Brickstock, Casey and Davies (2002).	
C242	Catterick site 434	North Yorks.	Urban	Small town/military	40	14	Brickstock, Casey and Davies,	

IDNO	Comp parishID	County	Reece Site type	More detailed site classification	h=20	h=30	Reference	Notes
							(2002)	
C243	Catterick site 452	North Yorks.	Urban		5	3	Brickstock, Casey and Davies (2002)	
C244	Catterick Site 46	North Yorks.	Urban		5	3	Brickstock, Casey and Davies (2002)	
C245	Filey	North Yorks.	Military		14	8	Shotter (1999)	
C246	Goldsborough	North Yorks.	Military		25	1	Shotter (1999)	
C247	Huntcliff	North Yorks.	Military		7	3	Shotter (1999)	
C248	Malton 126	North Yorks.	Military		2	2	Reece (1991b)	
C249	Roecliffe	North Yorks.	Military		7	3	Brickstock (2005a)	
C250	Scarborough	North Yorks.	Military		14	8	Shotter (1999)	
C251	Victoria Cave, Settle	North Yorks.	rural	votive	41	15	Shotter (1998)	
C252	Whitby 'area'	North Yorks.	Military		28	8	Shotter (1999)	
C253	Cosgrove	Northants	Villa	Early villa; demolished and replaced with Romano-Celtic Temple and agricultural buildings in 2nd c.	5	3	Brickstock (1991)	
C254	Croughton	Northants.	Rural		3	3	Guest (2008e)	
C255	Kettering	Northants.	Rural	Small town?	42	9	Carson (1988)	17 coins
C256	Piddington Roman villa	Northants.	villa		28	8	Friendship-Taylor (2008)	
C257	Corbridge 123	Northumberland	Military		5	3	Reece (1991b)	
C258	Coventina's Well 124	Northumberland	Military	Votive	24	4	Reece (1991b)	
C259	Housesteads 125	Northumberland	Military		20	9	Reece (1991b)	
C260	Vindolanda 2003	Northumberland	Military		43	16	Brickstock (2005b)	
C261	Vindolanda 2004	Northumberland	Military		43	16	Brickstock (2005b)	

IDNO	Comp parishID	County	Reece Site type	More detailed site classification	h=20	h=30	Reference	Notes
C262	Vindolanda 2005-2006	Northumberland	Military		43	16	Brickstock (2007)	
C263	Vindolanda Military	Northumberland	Military		5	3	Casey (1994b)	
C264	Broughton Lodge, Willoughby on the Wolds	Nottinghamshire	Rural		44	17	Davies (1993)	
C265	Alchester 1967 61	Oxfordshire	Urban		43	16	Reece (1991b)	
C266	Alchester 1968 62	Oxfordshire	Urban		4	4	Reece (1991b)	
C267	Alchester extramural	Oxfordshire	Urban		7	3	Darwish (2001)	
C268	Asthall	Oxfordshire	Urban		32	8	King and Booth (1997)	
C269	Denchworth Road, Wantage	Oxfordshire	Rural		2	2	Guest (2001)	
C270	Dorchester on Thames 71	Oxfordshire	Urban		4	4	Reece (1991b)	
C271	Mill Street, Wantage	Oxfordshire	Rural		2	2	Guest (1996)	
C272	Old Shifford Farm, Standlake	Oxfordshire	Rural		5	3	King (1995)	
C273	Shakenoak 99	Oxfordshire	Villa		15	9	Reece (1991b)	
C274	Somerton 57	Oxfordshire	Rural		13	1	Reece (1991b)	
C275	Wilcote 1990-1992	Oxfordshire	Rural		45	10	Howgego (1993)	
C276	Wilcote 1993-1996	Oxfordshire	Rural		18	10	Howgego and King (1988)	
C277	Wilcote 1997-2000	Oxfordshire	Rural		1	1	Howgego and King (2004)	
C278	Wilcote quarry	Oxfordshire	Rural		45	10	Howgego and King (1998)	
C279	Yarnton	Oxfordshire	Rural		7	3	Booth (2008d)	
C280	Thistleton Dyer 134	Rutland	Temple		29	2	Reece (1991b)	
C281	Meole Brace	Shropshire	Rural	Roadside settlement	29	2	Esmonde Cleary (1994)	
C282	Redhill	Shropshire	Military		7	3	Boon (2004)	

IDNO	Comp parishID	County	Reece Site type	More detailed site classification	h=20	h=30	Reference	Notes
C283	Wroxeter 24	Shropshire	Urban		9	3	Reece (1991b)	
C284	Wroxeter 25	Shropshire	Urban		7	3	Reece (1991b)	
C285	Wroxeter eastern defences	Shropshire	Urban		29	2	Brickstock (2006)	
C286	Wroxeter forum	Shropshire	Urban		2	2	Casey and Brickstock (2006)	
C287	Brean Down 136	Somerset	Temple		7	3	Reece (1991b)	
C288	Camerton 58	Somerset	Rural		7	3	Reece (1991b)	
C289	Cannards Grave, Shepton Mallet	Somerset	Rural		29	2	Wells (2002)	
C290	Catsgore 70	Somerset	Rural		11	1	Reece (1991b)	
C291	Crandon Bridge site finds	Somerset	Rural	Small town and port	16	10	Casey (2008)	Casey identifies 47 coins as being part of a scattered hoard. I have therefore removed them from the 'site' find totals.
C292	Gatcombe 100	Somerset	Villa		25	1	Reece (1991b)	
C293	Gatcombe 101	Somerset	Villa		30	3	Reece (1991b)	
C294	Henley Wood 130	Somerset	Temple		2	2	Reece (1991b)	
C295	Lamyatt Beacon 133	Somerset	Temple		9	3	Reece (1991b)	
C296	Shepton Mallet MBP	Somerset	Rural	Roadside settlement	13	1	Esmonde Cleary (2001)	
C297	Shepton Mallet SM90	Somerset	Rural	Roadside settlement	13	1	Esmonde Cleary (2001)	
C298	Shepton Mallet TMUS	Somerset	Rural	Roadside settlement	25	1	Esmonde Cleary (2001)	
C299	Wookey Hole	Somerset	Rural	Votive element	14	8	Dearne (1990)	
C300	Yeovilton	Somerset	Rural		11	1	Wells (2006)	
C301	Hawks Wood, Thorpe Salvin	South Yorkshire	Rural		3	3	Dearne. and Parsons (1997)	
C302	Old Spring Wood, Thorpe Salvin	South Yorkshire	Rural		2	2	Dearne. and Parsons (1997)	

IDNO	Comp parishID	County	Reece Site type	More detailed site classification	h=20	h=30	Reference	Notes
C303	Rocester	Staffordshire	Military		28	8	Esmonde-Cleary (1996)	
C304	Hacheston 88	Suffolk	Rural		5	3	Reece (1991b)	
C305	Hacheston 89	Suffolk	Rural		3	3	Reece (1991b)	
C306	Hacheston 90	Suffolk	Rural		7	3	Reece (1991b)	
C307	King William IV, Ewell	Surrey	Rural	Possible religious element	7	3	Orton (1997)	
C308	Wanborough excavations 1985-6	Surrey	Temple		7	3	Cheesman (1994)	
C309	Chichester 48	Sussex	Urban		3	3	Reece (1991b)	
C310	Chichester 49	Sussex	Urban		2	2	Reece (1991b)	
C311	Chichester museum 23	Sussex	Urban		2	2	Reece (1991b)	
C312	Chilgrove 106	Sussex	Villa		7	3	Reece (1991b)	
C313	Chilgrove 107	Sussex	Villa		5	3	Reece (1991b)	
C314	Fishbourne 111	Sussex	Villa		36	2	Reece (1991b)	
C315	Fishbourne 1983-1999	Sussex	Villa		2	2	Rudling (2005)	
C316	Rowes Garage Chichester	Sussex	Rural		3	3	Cooke (2008c)	
C317	Ingleby Barwick	Teeside	Villa		2	2	Brickstock (2001)	
C318	Newcastle Military	Tyne and Wear	Military		46	1	Brickstock (1994)	
C319	South Shields	Tyne and Wear	Military		5	3	Brickstock (1994)	
C320	South Shields 112	Tyne and Wear	Military		5	3	Reece (1991b)	
C321	Alcester 63	Warwickshire	Rural		30	3	Reece (1991b)	
C322	Alcester northern extra-mural	Warwickshire	Rural		17	1	Seaby and Booth (2001)	
C323	Coleshill	Warwickshire	Temple	Rural	47	2	Seaby (2005)	

IDNO	Comp parishID	County	Reece Site type	More detailed site classification	h=20	h=30	Reference	Notes
C324	Salford Priors	Warwickshire	Villa		14	8	Mays (2000)	
C325	Dalton Parlours	West Yorkshire	Villa		14	8	Pirie (1990)	
C326	Amesbury Phase II housing	Wiltshire	Rural		14	8	Cooke (2008b)	
C327	Atworth 105	Wiltshire	Villa		30	3	Reece (1991b)	
C328	Blunsdon Ridge	Wiltshire	Temple	Votive?	7	3	Moorhead (2001b)	
C329	Boscombe Down 5	Wiltshire	Rural		48	13	Moorhead (2001b)	
C330	Boscombe Sewer Cemetery	Wiltshire	Rural		11	1	Cooke (2008l)	
C331	Bradford on Avon	Wiltshire	Villa		5	3	Moorhead (2001b)	
C332	Broad Hinton	Wiltshire	Villa	Rural	2	2	Moorhead (2001b)	
C333	Butterfield Down	Wiltshire	Rural		7	3	Moorhead (2001b)	
C334	Calne 55	Wiltshire	Rural		14	8	Reece (1991b)	
C335	Calstone	Wiltshire	Temple	Votive	14	8	Moorhead (2001b)	
C336	Castle Combe/North Wraxhall	Wiltshire	Temple	Votive	5	3	Moorhead (2001b)	
C337	Castle Copse	Wiltshire	Villa		46	1	Moorhead (2001b)	
C338	Claydon Pike	Wiltshire	Temple	Rural	25	1	King (2008)	
C339	Cold Kitchen Hill	Wiltshire	Temple	Votive	5	3	Moorhead (2001b)	
C340	Cunetio	Wiltshire	Urban		3	3	Moorhead (2001b)	
C341	East Grimstead	Wiltshire	Villa		2	2	Moorhead (2001b)	
C342	Easton Grey	Wiltshire	Rural		7	3	Moorhead (2001b)	
C343	Euridge	Wiltshire	Villa	Votive	3	3	Moorhead (2001b)	
C344	Kennet (Silbury)	Wiltshire	Rural	Votive	36	2	Moorhead (2001b)	
C345	Lacock	Wiltshire	Rural		2	2	Moorhead (2001b)	
C346	Littlecote	Wiltshire	Villa	Military and rural	2	2	Moorhead (2001b)	

IDNO	Comp parishID	County	Reece Site type	More detailed site classification	h=20	h=30	Reference	Notes
C347	Mother Anthony's Well	Wiltshire	Villa	Votive	2	2	Moorhead (2001b)	
C348	Nettleton 131	Wiltshire	Temple	Votive	36	2	Reece (1991b)	
C349	New Covert, Boscombe	Wiltshire	Rural		7	3	Cooke (2008a)	
C350	Old Sarum	Wiltshire	Rural		2	2	Moorhead (2001b)	
C351	Overton Down	Wiltshire	Rural		36	2	Moorhead (2001b)	
C352	Silbury Ditch	Wiltshire	Rural	Votive	7	3	Moorhead (2001b)	
C353	Silbury Wells	Wiltshire	Rural	Votive	7	3	Moorhead (2001b)	
C354	Stanton Park	Wiltshire	Villa		3	3	Moorhead (2001b)	
C355	Stockton	Wiltshire	Rural		7	3	Moorhead (2001b)	
C356	Stonehenge	Wiltshire	Rural	Votive	32	8	Moorhead (2001b)	
C357	Urchfont	Wiltshire	Temple		3	3	Moorhead (2001b)	
C358	Verlucio	Wiltshire	Urban	Small town	2	2	Moorhead (2001b)	
C359	Wanborough 64	Wiltshire	Urban	Small town	18	10	Reece (1991b)	
C360	Wanborough 65	Wiltshire	Urban	Small town	5	3	Reece (1991b)	
C361	Weavers Bridge	Wiltshire	Rural		3	3	Davies (1999b)	
C362	Westbury	Wiltshire	Rural	Ironworks	7	3	Moorhead (2001b)	
C363	Bays Meadow Villa	Worcestershire	Villa		2	2	Davies (2006)	
C364	Dodderhill, Droitwich	Worcestershire	Military		2	2	Davies (2006)	
C365	Hanbury Street, Droitwich	Worcestershire	Rural		5	3	Davies (2006)	
C366	Sidbury, Worcester	Worcestershire	Urban		2	2	Casey (1992)	
C367	Manchester 127		Military		36	2	Reece (1991b)	
C368	Manchester totals (shotter 2000)		Military		34	12	Shotter (2000) 22-24.	

Appendix B: Dmax Cluster Analysis Groups

Table A: Members of H30 Group 1

IDNO	h=20	h=30	Parish or comparative site name	County
C001	1	1	Bath Sacred Spring	Avon
C024	1	1	Chester 122	Cheshire
C025	1	1	Chester collections	Cheshire
C035	1	1	Castlesteads	Cumbria
C037	1	1	Maryport	Cumbria
C173	1	1	Westhawk Farm metal detecting	Kent
C262	1	1	Vindolanda 2005-2006	Northumberland
C368	1	1	Manchester	Manchester
CORN0015	1	1	Padstow	Cornwall
HAMP0109	1	1	Upham	Hampshire
NORF0057	1	1	Buxton with Lamas	Norfolk
NORF0137	1	1	Hevingham	Norfolk
NORF0310	1	1	Weybourne	Norfolk
SURR0025	1	1	Limpsfield	Surrey
C016	11	1	Langwood Farm, Chatteris	Cambridgeshire
C197	11	1	London Guildhall 31	London
C200	11	1	Southwark (8 sites)	London
C201	11	1	Southwark 50	London
C275	11	1	Wilcote 1990-1992	Oxfordshire
C285	11	1	Wroxeter eastern defences	Shropshire
C315	11	1	Fishbourne 1983-1999	Sussex
C018	13	1	Stonea Camp	Cambridgeshire
C034	13	1	Carlisle totals	Cumbria
C064	13	1	Chester le Street	Durham
C080	13	1	Colchester small sites 38	Essex

IDNO	h=20	h=30	Parish or comparative site name	County
C086	13	1	Kelvedon 73	Essex
C175	13	1	Lancaster	Lancashire
C259	13	1	Housesteads 125	Northumberland
C281	13	1	Meole Brace	Shropshire
C282	13	1	Redhill	Shropshire
CAMB0043	13	1	Little Wilbraham	Cambridgeshire
LEIC0065	13	1	Narborough	Leicestershire
NORF0006	13	1	Ashby with Oby	Norfolk
NORF0268	13	1	Stanfield	Norfolk
NORF0283	13	1	Syderstone	Norfolk
NYrk0119	13	1	Tockwith	North Yorkshire
SUFF0187	13	1	St Mary South Elmham otherwise Homersfield	Suffolk
WILT0001	13	1	Alderbury	Wiltshire
C027	17	1	Meols	Cheshire
C038	17	1	Maryport	Cumbria
C047	17	1	Pickfords Garage, Little Chester	Derbyshire
C071	17	1	Balkerne Heights, Colchester	Essex
C307	17	1	King William IV, Ewell	Surrey
C366	17	1	Sidbury, Worcester	Worcestershire
C044	23	1	Brough Field, Carsington	Derbyshire
C049	25	1	Exeter 10	Devon
C050	25	1	Exeter 11	Devon
C051	25	1	Exeter 12	Devon
C084	25	1	Harlow Temple	Essex
C196	25	1	London excavations 32	London
C204	25	1	Winchester Palace	London
C218	25	1	Ditchingham	Norfolk
C231	25	1	Venta temple	Norfolk

IDNO	h=20	h=30	Parish or comparative site name	County
C277	25	1	Wilcote 1997-2000	Oxfordshire
C283	25	1	Wroxeter 24	Shropshire
C323	25	1	Coleshill	Warwickshir
CAMB0030	25	1	Great and Little Chishill	Cambridgeshire
ESSE0089	25	1	Sible Hedingham	Essex
LINC0022	25	1	Branston and Mere	Lincolnshire
C065	31	1	Greta Bridge	Durham
C109	35	1	Kingsholm Close, Gloucester	Gloucestershire
C165	35	1	Springhead CTRL	Kent
C303	46	1	Rocester	Staffordshire
C322	46	1	Alcester northern extra-mural	Warwickshire
CHES0001	51	1	Acton Bridge	Cheshire
LEIC0097	51	1	Twycross	Leicestershire
DURH0007	53	1	Piercebridge	Durham
WORC0028	53	1	Great Witley	Worcester

Table B: Members of H30 Group 2

IDNO	h=20	h=30	Parish or comparative site name	County
AVON0007	2	2	Thornbury	Avon
BUCK0016	2	2	Cold Brayfield	Buckinghamshire
BUCK0034	2	2	Hardwick	Buckinghamshire
C002	2	2	Bletsoe (cemetery)	Bedfordshire
C005	2	2	Puddlehill	Bedfordshire
C010	2	2	Mantles Green, Amersham	Buckinghamshire
C022	2	2	Wimpole	Cambridgeshire
C030	2	2	Trevelgue (Reece)	Cornwall
C052	2	2	Dewlish 103	Dorset
C060	29	2	Ilchester 33	Dorset
C074	2	2	Chelmsford temple 132	Essex
C091	2	2	Chedworth Villa	Gloucestershire
C092	2	2	Cirencester Beeches Road 41	Gloucestershire
C094	2	2	Cirencester cinema	Gloucestershire
C099	29	2	Dorn 86	Gloucestershire
C104	2	2	Great Witcombe	Gloucestershire
C106	2	2	Kingscote 66	Gloucestershire
C115	2	2	Turkdean villa	Gloucestershire
C116	2	2	Uley 140	Gloucestershire
C119	2	2	Ashton 81	Northamptonshire
C129	36	2	Suddern Farm, Middle Wallop	Hampshire
C161	2	2	Minster in Thanet	Kent
C171	29	2	Villa, Orpington	Kent
C187	2	2	Pasture Lodge Farm, Long Bennington	Lincolnshire
C188	29	2	Sapperton 76	Lincolnshire
C219	2	2	Fison Way, Thetford	Norfolk
C221	2	2	Hockwold 139	Norfolk
C222	2	2	Hockwold cum Wilton, Leylands	Norfolk
C233	2	2	Woodcock Hall	Norfolk
C254	2	2	Croughton	Northamptonshire

IDNO	h=20	h=30	Parish or comparative site name	County
C256	2	2	Piddington Roman villa	Northamptonshire
C265	29	2	Alchester 1967 61	Oxfordshire
C266	29	2	Alchester 1968 62	Oxfordshire
C270	29	2	Dorchester on Thames 71	Oxfordshire
C271	2	2	Mill Street, Wantage	Oxfordshire
C274	29	2	Somerton 57	Oxfordshire
C279	2	2	Yarnton	Oxfordshire
C287	2	2	Brean Down 136	Somerset
C295	2	2	Lamyatt Beacon 133	Somerset
C296	2	2	Shepton Mallet MBP	Somerset
C299	36	2	Wookey Hole	Somerset
C300	2	2	Yeovilton	Somerset
C302	2	2	Old Spring Wood, Thorpe Salvin	South Yorkshire
C308	47	2	Wanborough excavations 1985-6	Surrey
C317	2	2	Ingleby Barwick	Teeside
C326	2	2	Amesbury Phase II housing	Wiltshire
C329	36	2	Boscombe Down 5	Wiltshire
C330	2	2	Boscombe Sewer Cemetery	Wiltshire
C331	2	2	Bradford on Avon	Wiltshire
C332	2	2	Broad Hinton	Wiltshire
C333	36	2	Butterfield Down	Wiltshire
C335	2	2	Calstone	Wiltshire
C336	36	2	Castle Combe/North Wraxhall	Wiltshire
C343	2	2	Euridge	Wiltshire
C348	2	2	Nettleton 131	Wiltshire
C349	2	2	New Covert, Boscombe	Wiltshire
C351	2	2	Overton Down	Wiltshire
C352	36	2	Silbury Ditch	Wiltshire
C354	2	2	Stanton Park	Wiltshire
C357	2	2	Urchfont	Wiltshire
C359	2	2	Wanborough 64	Wiltshire
CAMB0019	2	2	Chippenham	Cambridgeshire
CAMB0058	2	2	Southoe and Midloe	Cambridgeshire

IDNO	h=20	h=30	Parish or comparative site name	County
CAMB0066	2	2	Water Newton	Cambridgeshire
DORS0040	2	2	Sandford Orcas	Dorset
DORS0043	2	2	South Perrott	Dorset
EYrk0006	36	2	Boynton	East Riding of Yorkshire
EYrk0021	2	2	Hayton	East Riding of Yorkshire
HAMP0007	2	2	Beauworth	Hampshire
HAMP0078	2	2	Nether Wallop	Hampshire
HAMP0110	2	2	Upton Grey	Hampshire
KENT0108	2	2	Southfleet	Kent
LEIC0004	2	2	Barkby Thorpe	Leicestershire
LEIC0078	2	2	Scalford	Leicestershire
LINC0089	36	2	Newball	Lincolnshire
LINC0100	2	2	Owersby	Lincolnshire
LINC0121	2	2	Stainton by Langworth	Lincolnshire
LINC0137	2	2	Walcot near Folkingham	Lincolnshire
Nhmp0009	2	2	Brigstock	Northamptonshire
Nhmp0024	36	2	Farthinghoe	Northamptonshire
Nhmp0040	2	2	Islip	Northamptonshire
Nhmp0057	2	2	Oundle	Northamptonshire
Nhmp0073	2	2	Thrapston	Northamptonshire
Nhmp0079	2	2	Upton	Northamptonshire
Nhmp0091	2	2	Woodford	Northamptonshire
NLin0005	2	2	Barton upon Humber	North Lincolnshire
NORF0080	2	2	Didlington	Norfolk

IDNO	h=20	h=30	Parish or comparative site name	County
NORF0139	2	2	Hilborough	Norfolk
NORF0249	2	2	Sheringham	Norfolk
NOTT0060	2	2	Sutton	Nottinghamshire
NYrk0052	47	2	Heslington	North Yorkshire
OXFO0008	2	2	Buscot	Oxfordshire
OXFO0014	2	2	Chipping Norton	Oxfordshire
OXFO0033	29	2	Henley on Thames	Oxfordshire
OXFO0041	2	2	Kingston Lisle	Oxfordshire
SOME0045	2	2	South Petherton	Somerset
SUFF0067	2	2	Elveden	Suffolk
SUFF0071	2	2	Falkenham	Suffolk
SUFF0079	2	2	Freckenham	Suffolk
SUFF0102	2	2	Hemingstone	Suffolk
SUFF0206	2	2	Thornham Magna	Suffolk
WILT0041	2	2	Grittleton	Wiltshire
WILT0047	36	2	Kingston Langley	Wiltshire
WILT0053	2	2	Liddington	Wiltshire
WILT0083	2	2	West Lavington	Wiltshire
WORC0007	2	2	Bickmarsh	Worcestershire

Table C: Members of H30 Group 3

IDNO	h=20	h=30	Parish or comparative site name	County
BEDF0027	3	3	Odell	Bedfordshire
BEDF0031	7	3	Roxton	Bedfordshire
BEDF0037	5	3	Stondon	Bedfordshire
BEDF0046	7	3	Wilden	Bedfordshire
BEDF0047	7	3	Willington	Bedfordshire
BUCK0017	5	3	Creslow	Buckinghamshire
BUCK0025	5	3	Ellesborough	Buckinghamshire
BUCK0031	5	3	Hambleden	Buckinghamshire
BUCK0032	7	3	Hanslope	Buckinghamshire
BUCK0035	9	3	Haversham cum little Linford	Buckinghamshire
BUCK0075	7	3	Westbury	Buckinghamshire
C003	3	3	Bletsoe (structures)	Bedfordshire
C006	5	3	Renhold	Bedfordshire
C008	7	3	Bancroft Temple-mausoleum	Buckinghamshire
C009	7	3	Fenny Lock, Milton Keynes	Buckinghamshire
C012	3	3	Haddon, Peterborough	Cambridgeshire
C013	9	3	Castle Hill, Cambridge	Cambridgeshire
C021	7	3	Water Newton 44	Cambridgeshire
C053	9	3	Dorchester 16	Dorset
C054	3	3	Dorchester 17	Dorset
C055	3	3	Dorchester 18	Dorset
C062	30	3	Binchester	Durham
C063	5	3	Binchester 117	Durham
C066	3	3	Piercebridge 116	Durham
C069	7	3	Shiptonthorpe	East Riding of Yorkshire
C077	7	3	Colchester Butt Road 36	Essex
C081	5	3	Elms Farm, Weybridge	Essex

IDNO	h=20	h=30	Parish or comparative site name	County
C082	3	3	Gestingthorpe 95	Essex
C083	5	3	Great Holts Farm, Boreham	Essex
C087	33	3	Stansted	Essex
C089	7	3	Barnsley Park 93	Gloucestershire
C090	3	3	Birdlip Quarry	Gloucestershire
C093	5	3	Cirencester cemetery/amphitheatre 40	Gloucestershire
C095	9	3	Cirencester Museum 39	Gloucestershire
C096	9	3	Cirencester smaller sites 43	Gloucestershire
C098	7	3	Coln St Aldwyns 75	Gloucestershire
C100	7	3	Frocester Court 94	Gloucestershire
C101	9	3	Gloucester 13	Gloucestershire
C102	5	3	Gloucester 14	Gloucestershire
C103	7	3	Gloucester 15	Gloucestershire
C105	7	3	Great Witcombe (greenfield)	Gloucestershire
C107	30	3	Kingscote 67	Gloucestershire
C108	5	3	Kingscote fieldwalking 68	Gloucestershire
C111	7	3	Lydney 137	Gloucestershire
C112	7	3	Lydney 138	Gloucestershire
C113	7	3	Roughground Farm, Lechlade	Gloucestershire
C118	9	3	Ashton 80	Northampton
C120	5	3	Balksbury Camp	Hampshire
C121	7	3	East Anton 85	Hampshire
C123	7	3	Holybourne, Alton	Hampshire
C125	3	3	Manor Cottages, Neatham, Alton	Hampshire
C126	7	3	Portchester 118	Hampshire
C127	5	3	Rockbourne 97	Hampshire
C128	5	3	Silchester 45	Hampshire
C130	3	3	Winchester 20	Hampshire
C131	3	3	Winchester 21	Hampshire
C132	5	3	Winchester 22	Hampshire
C133	33	3	Winchester AY 93	Hampshire
C134	3	3	Kenchester 87	Herefordshire
C135	9	3	Baldock	Hertfordshire

IDNO	h=20	h=30	Parish or comparative site name	County
C136	5	3	Boxfield Farm, Chells, Stevenage	Hertfordshire
C139	9	3	Cow Roast Orchard 77	Hertfordshire
C141	7	3	Foxholes Farm	Hertfordshire
C142	3	3	Friars Wash,	Hertfordshire
C143	5	3	Gadebridge 104	Hertfordshire
C144	5	3	Ninesprings, Great Wymondley	Hertfordshire
C147	7	3	Verulamium Theatre	Hertfordshire
C148	3	3	Verulamium Verulam 7	Hertfordshire
C150	7	3	Ware 82	Hertfordshire
C151	37	3	Watton at Stone 83	Hertfordshire
C152	7	3	Watton-at-Stone 84	Hertfordshire
C153	5	3	Canterbury 27	Kent
C154	7	3	Canterbury 28	Kent
C155	37	3	Canterbury 29	Kent
C156	3	3	Canterbury 30	Kent
C157	7	3	Ebbsfleet	Kent
C159	7	3	Lullingstone 92	Kent
C160	3	3	Lympne 120	Kent
C162	5	3	Northfleet	Kent
C168	7	3	Syndale Park, Ospringe	Kent
C170	5	3	Villa, Keston	Kent
C182	3	3	Lincoln Flaxengate	Lincolnshire
C183	5	3	Lincoln St Marks 4	Lincolnshire
C184	7	3	Lincoln the park 2	Lincolnshire
C185	5	3	Lincoln various 5	Lincolnshire
C186	5	3	Old Winteringham 128	Lincolnshire
C189	9	3	Sudbrooke	Lincolnshire
C190	3	3	West Deeping	Lincolnshire
C191	5	3	Winterton 98	Lincolnshire
C192	5	3	Bow/ Oldford site	London
C194	7	3	Heathrow Terminal 5	London
C203	3	3	TOC02, Shadwell	London
C205	7	3	Beachamwell	Norfolk
C206	7	3	Billingford	Norfolk

IDNO	h=20	h=30	Parish or comparative site name	County
C208	5	3	Brancaster extra-mural	Norfolk
C209	9	3	Brancaster intra-mural	Norfolk
C210	7	3	Brettenham	Norfolk
C211	3	3	Caister by Yarmouth excavation	Norfolk
C213	3	3	Caister by Yarmouth finds	Norfolk
C214	7	3	Caistor by Norwich external 54	Norfolk
C215	5	3	Caistor by Norwich internal 53	Norfolk
C216	5	3	Caistor by Yarmouth 74	Norfolk
C220	7	3	Great Walsingham	Norfolk
C223	7	3	Hockwold cum Wilton, Sawbench	Norfolk
C226	5	3	Spong Hill	Norfolk
C228	5	3	Venta interior	Norfolk
C229	5	3	Venta park	Norfolk
C232	7	3	Venta west	Norfolk
C234	7	3	Dragonby	North Lincolnshire
C238	5	3	Catterick site 240	North Yorkshire
C239	3	3	Catterick site 251	North Yorkshire
C242	5	3	Catterick site 434	North Yorkshire
C248	5	3	Malton 126	North Yorkshire
C252	7	3	Whitby 'area'	North Yorkshire
C257	5	3	Corbridge 123	Northumberland
C264	7	3	Broughton Lodge, Willoughby on the Wol	Nottinghamshire
C267	7	3	Alchester extramural	Oxfordshire
C268	9	3	Asthall	Oxfordshire
C269	7	3	Denchworth Road, Wantage	Oxfordshire
C272	7	3	Old Shifford Farm, Standlake	Oxfordshire
C273	7	3	Shakenoak 99	Oxfordshire
C278	30	3	Wilcote quarry	Oxfordshire
C280	9	3	Thistleton Dyer 134	Rutland
C286	3	3	Wroxeter forum	Shropshire
C289	5	3	Cannards Grave, Shepton Mallet	Somerset
C290	3	3	Catsgore 70	Somerset

IDNO	h=20	h=30	Parish or comparative site name	County
C291	7	3	Crandon Bridge site finds	Somerset
C292	7	3	Gatcombe 100	Somerset
C293	7	3	Gatcombe 101	Somerset
C294	3	3	Henley Wood 130	Somerset
C297	7	3	Shepton Mallet SM90	Somerset
C298	5	3	Shepton Mallet TMUS	Somerset
C301	3	3	Hawks Wood, Thorpe Salvin	South Yorkshire
C304	5	3	Hacheston 88	Suffolk
C305	5	3	Hacheston 89	Suffolk
C306	30	3	Hacheston 90	Suffolk
C312	30	3	Chilgrove 106	Sussex
C313	7	3	Chilgrove 107	Sussex
C316	5	3	Rowes Garage Chichester	Sussex
C318	7	3	Newcastle Fort	Tyne and Wer
C321	5	3	Alcester 63	Warwickshire
C324	5	3	Salford Priors	Warwickshire
C325	3	3	Dalton Parlours	West Yorkshire
C327	7	3	Atworth 105	Wiltshire
C328	3	3	Blunsdon Ridge	Wiltshire
C334	7	3	Calne 55	Wiltshire
C337	7	3	Castle Copse	Wiltshire
C338	7	3	Claydon Pike	Wiltshire
C339	3	3	Cold Kitchen Hill	Wiltshire
C340	7	3	Cunetio	Wiltshire
C342	3	3	Easton Grey	Wiltshire
C345	5	3	Lacock	Wiltshire
C346	3	3	Littlecote	Wiltshire
C347	7	3	Mother Anthony's Well	Wiltshire
C350	5	3	Old Sarum	Wiltshire
C355	7	3	Stockton	Wiltshire
C356	9	3	Stonehenge	Wiltshire
C358	5	3	Verlucio	Wiltshire
C360	9	3	Wanborough 65	Wiltshire
C361	30	3	Weavers Bridge	Wiltshire

IDNO	h=20	h=30	Parish or comparative site name	County
C363	3	3	Bays Meadow Villa	Worcestershire
CAMB0003	33	3	Babraham	Cambridgeshire
CAMB0011	5	3	Burrough Green	Cambridgeshire
CAMB0014	7	3	Cambridge	Cambridgeshire
CAMB0016	7	3	Castle Camps	Cambridgeshire
CAMB0027	9	3	Fordham	Cambridgeshire
CAMB0033	33	3	Harston	Cambridgeshire
CAMB0039	7	3	Isleham	Cambridgeshire
CAMB0044	3	3	Littleport	Cambridgeshire
CAMB0056	7	3	Soham	Cambridgeshire
CAMB0069	7	3	West Wratting	Cambridgeshire
CAMB0070	7	3	Weston Colville	Cambridgeshire
CHES0010	7	3	Chester Castle	Cheshire
CHES0024	5	3	Goostrey	Cheshire
CHES0038	7	3	Marbury cum Quoisley	Cheshire
CORN0005	5	3	Hayle	Cornwall
DERB0008	5	3	Derby	Derbyshire
DORS0035	5	3	Pentridge	Dorset
DORS0037	9	3	Portesham	Dorset
DORS0039	7	3	Puddletown	Dorset
ESSE0004	3	3	Arkesden	Essex
ESSE0014	5	3	Broomfield	Essex
ESSE0056	7	3	Langford	Essex
ESSE0058	3	3	Layer de la Haye	Essex

IDNO	h=20	h=30	Parish or comparative site name	County
ESSE0086	5	3	Roxwell	Essex
ESus0041	33	3	Willingdon	East Sussex
EYrk0003	7	3	Beverley	East Riding of Yorkshire
EYrk0007	9	3	Brantingham	East Riding of Yorkshire
EYrk0029	7	3	Market Weighton	East Riding of Yorkshire
EYrk0038	7	3	Rudston	East Riding of Yorkshire
EYrk0040	5	3	Shipton Thorpe	East Riding of Yorkshire
EYrk0046	5	3	Wilberfoss	East Riding of Yorkshire
EYrk0047	7	3	Yapham	East Riding of Yorkshire
GLon0012	5	3	Croydon	Greater London
GLOU0009	30	3	Bourton on the Water	Gloucestershire
GLOU0010	3	3	Cherington	Gloucestershire
GLOU0024	30	3	Highnam	Gloucestershire
GLOU0033	7	3	Northleach with Eastington	Gloucestershire
GLOU0037	7	3	Quenington	Gloucestershire
HAMP0002	9	3	Amport	Hampshire
HAMP0010	3	3	Bishops Waltham	Hampshire
HAMP0011	7	3	Bishopstoke	Hampshire
HAMP0015	7	3	Breamore	Hampshire
HAMP0022	7	3	Cheriton	Hampshire
HAMP0030	5	3	Crawley	Hampshire

IDNO	h=20	h=30	Parish or comparative site name	County
HAMP0034	5	3	Damerham	Hampshire
HAMP0037	7	3	Droxford	Hampshire
HAMP0042	3	3	Exton	Hampshire
HAMP0053	3	3	Hawkley	Hampshire
HAMP0054	5	3	Headbourne Worthy	Hampshire
HAMP0059	5	3	Hurstbourne Priors	Hampshire
HAMP0064	7	3	Kings Sombourne	Hampshire
HAMP0069	7	3	Little Somborne	Hampshire
HAMP0074	3	3	Micheldever	Hampshire
HAMP0084	5	3	Overton	Hampshire
HAMP0085	7	3	Owslebury	Hampshire
HAMP0091	5	3	Rockbourne	Hampshire
HAMP0092	9	3	Ropley	Hampshire
HAMP0114	7	3	Wherwell	Hampshire
HAMP0115	3	3	Whitchurch	Hampshire
HERE0002	5	3	Alvechurch	Herefordshire
HERT0004	3	3	Ashwell	Hertfordshire
HERT0012	3	3	Buntingford	Hertfordshire
HERT0015	3	3	Clothall	Hertfordshire
HERT0021	5	3	Hinxworth	Hertfordshire
HERT0025	3	3	Little Hadham	Hertfordshire
HERT0028	3	3	Much Hadham	Hertfordshire
HERT0030	5	3	Offley	Hertfordshire

IDNO	h=20	h=30	Parish or comparative site name	County
HERT0046	5	3	Wallington	Hertfordshire
HERT0048	5	3	Watton at Stone	Hertfordshire
KENT0039	7	3	Dover	Kent
KENT0053	7	3	Goodnestone	Kent
KENT0094	7	3	Ringwould with Kingsdown	Kent
KENT0097	7	3	Sandwich	Kent
KENT0119	5	3	Thanington without	Kent
KENT0133	5	3	Worth	Kent
LEIC0005	30	3	Barrow upon Soar	Leicestershire
LEIC0032	3	3	Frisby and Kirby	Leicestershire
LEIC0034	5	3	Gaddesby	Leicestershire
LEIC0037	5	3	Goadby	Leicestershire
LEIC0077	7	3	Sapcote	Leicestershire
LINC0014	7	3	Billingborough	Lincolnshire
LINC0015	7	3	Binbrook	Lincolnshire
LINC0017	5	3	Blankney	Lincolnshire
LINC0040	7	3	Edlington and Wispington	Lincolnshire
LINC0044	7	3	Folkingham	Lincolnshire
LINC0047	7	3	Fulnetby	Lincolnshire
LINC0052	7	3	Grayingham	Lincolnshire
LINC0063	7	3	Horncastle	Lincolnshire
LINC0066	7	3	Keelby	Lincolnshire
LINC0067	30	3	Kirkby la Thorpe	Lincolnshire
LINC0073	5	3	Lenton Keisby And Osgodby	Lincolnshire
LINC0075	7	3	Lissington	Lincolnshire
LINC0084	7	3	Middle Rasen	Lincolnshire
LINC0088	7	3	Nettleton	Lincolnshire
LINC0090	7	3	Newton and Haceby	Lincolnshire
LINC0120	7	3	Stainfield	Lincolnshire
LINC0126	9	3	Sudbrooke	Lincolnshire
LINC0128	5	3	Swinhope	Lincolnshire

IDNO	h=20	h=30	Parish or comparative site name	County
LINC0132	5	3	Thonock	Lincolnshire
LINC0141	7	3	Wellingore	Lincolnshire
LINC0142	5	3	Welton le Wold	Lincolnshire
LINC0145	5	3	West Rasen	Lincolnshire
LINC0148	5	3	Wickenby	Lincolnshire
LINC0150	7	3	Wood Enderby	Lincolnshire
Nhmp0027	30	3	Gayton	Northamptonshire
Nhmp0031	7	3	Hackleton	Northamptonshire
Nhmp0033	30	3	Harpole	Northamptonshire
Nhmp0050	33	3	Moulton	Northamptonshire
Nhmp0054	5	3	Norton	Northamptonshire
Nhmp0060	7	3	Paulersbury	Northamptonshire
Nhmp0062	7	3	Potterspury	Northamptonshire
Nhmp0070	5	3	Stowe Nine Church	Northamptonshire
Nhmp0076	5	3	Titchmarsh	Northamptonshire
Nhmp0082	30	3	Wappenham	Northamptonshire
NLin0009	3	3	Crowle	North Lincolnshire
NLin0015	5	3	Hibaldstow	North Lincolnshire
NLin0017	9	3	Manton	North Lincolnshire
NLin0020	7	3	Roxby cum Risby	North Lincolnshire
NLin0028	30	3	Winterton	North Lincolnshire
NLin0030	7	3	Wrawby	North Lincolnshire
NLin0031	5	3	Winteringham	North Lincolnshire

IDNO	h=20	h=30	Parish or comparative site name	County
NORF0014	7	3	Ashwellthorpe	Norfolk
NORF0024	3	3	Beeston	Norfolk
NORF0026	5	3	Beeston with Bittering	Norfolk
NORF0029	5	3	Besthorpe	Norfolk
NORF0030	5	3	Billingford	Norfolk
NORF0049	5	3	Broome	Norfolk
NORF0053	7	3	Burnham Market	Norfolk
NORF0069	5	3	Colkirk	Norfolk
NORF0071	7	3	Congham	Norfolk
NORF0072	3	3	Corpusty	Norfolk
NORF0082	5	3	Docking	Norfolk
NORF0086	7	3	East Rudham	Norfolk
NORF0087	5	3	East Tuddenham	Norfolk
NORF0088	7	3	East Walton	Norfolk
NORF0112	5	3	Garboldisham	Norfolk
NORF0123	7	3	Great Walsingham	Norfolk
NORF0133	7	3	Harling	Norfolk
NORF0141	5	3	Hillington	Norfolk
NORF0142	5	3	Hindringham	Norfolk
NORF0147	30	3	Holme Hale	Norfolk
NORF0155	30	3	Horstead with Stanninghall	Norfolk
NORF0162	7	3	Kelling	Norfolk
NORF0163	5	3	Kenninghall	Norfolk

IDNO	h=20	h=30	Parish or comparative site name	County
NORF0164	5	3	Keswick	Norfolk
NORF0165	5	3	Ketteringham	Norfolk
NORF0166	5	3	Kilverstone	Norfolk
NORF0173	5	3	Letheringsett with Glandford	Norfolk
NORF0184	5	3	Marham	Norfolk
NORF0192	9	3	Merton	Norfolk
NORF0196	5	3	Mundford	Norfolk
NORF0200	5	3	Narborough	Norfolk
NORF0201	7	3	Narford	Norfolk
NORF0206	5	3	North Creake	Norfolk
NORF0207	7	3	North Elmham	Norfolk
NORF0212	9	3	Northwold	Norfolk
NORF0219	7	3	Oxborough	Norfolk
NORF0221	5	3	Pentney	Norfolk
NORF0222	5	3	Postwick with Witton	Norfolk
NORF0227	3	3	Reepham	Norfolk
NORF0242	5	3	Scole	Norfolk
NORF0253	7	3	Shouldham	Norfolk
NORF0258	5	3	Snettisham	Norfolk
NORF0259	5	3	Snettisham/Goldisthorpe	Norfolk
NORF0264	5	3	Southery	Norfolk
NORF0267	3	3	Sporle with Palgrave	Norfolk
NORF0269	3	3	Stoke Ferry	Norfolk

IDNO	h=20	h=30	Parish or comparative site name	County
NORF0277	7	3	Sustead	Norfolk
NORF0288	7	3	Thetford	Norfolk
NORF0291	7	3	Tibenham	Norfolk
NORF0301	3	3	Weasenham St Peter	Norfolk
NORF0302	7	3	Weeting with Broomhill	Norfolk
NORF0305	5	3	Wendling	Norfolk
NORF0309	3	3	West Winch	Norfolk
NORF0312	7	3	Wicklewood	Norfolk
NORF0314	5	3	Wighton	Norfolk
NORF0320	5	3	Wreningham	Norfolk
NOTT0014	7	3	Cromwell	Nottinghamshire
NOTT0017	7	3	East Stoke	Nottinghamshire
NOTT0044	7	3	Orston	Nottinghamshire
NOTT0052	5	3	Shelton	Nottinghamshire
NOTT0057	7	3	Stapleford	Nottinghamshire
NOTT0063	7	3	Thoroton	Nottinghamshire
NOTT0064	7	3	Thorpe	Nottinghamshire
NOTT0068	7	3	Willoughby on the Wolds	Nottinghamshire
NYrk0034	3	3	Dunnington	North Yorkshire
NYrk0078	3	3	Middleton	North Yorkshire
NYrk0087	7	3	Norton on Derwent	North Yorkshire
NYrk0103	7	3	Snainton	North Yorkshire
NYrk0104	9	3	Snape with Thorp	North Yorkshire
NYrk0125	9	3	Well	North Yorkshire
OXFO0017	5	3	Clanfield	Oxfordshire

IDNO	h=20	h=30	Parish or comparative site name	County
OXFO0042	5	3	Letcombe Regis	Oxfordshire
OXFO0044	5	3	Lockinge	Oxfordshire
OXFO0052	5	3	Rotherfield Greys	Oxfordshire
OXFO0058	5	3	Steventon	Oxfordshire
OXFO0066	9	3	Wantage	Oxfordshire
SOME0003	30	3	Bawdrip	Somerset
SOME0011	5	3	Chedzoy	Somerset
SOME0014	5	3	Chilton Trinity	Somerset
SOME0016	5	3	Curry Rivel	Somerset
SOME0026	7	3	Kingsdon	Somerset
SOME0030	5	3	Milborne Port	Somerset
SOME0032	7	3	Misterton	Somerset
SOME0040	5	3	Pawlett	Somerset
SOME0042	7	3	Queen Camel	Somerset
SOME0049	7	3	Stockland Bristol	Somerset
SOME0051	7	3	Stogursey	Somerset
STAF0022	5	3	Ilam	Staffordshire
SUFF0002	7	3	Alderton	Suffolk
SUFF0007	5	3	Bacton	Suffolk
SUFF0009	7	3	Badley	Suffolk
SUFF0011	7	3	Barking	Suffolk
SUFF0015	5	3	Battisford	Suffolk
SUFF0016	5	3	Bedfield	Suffolk

IDNO	h=20	h=30	Parish or comparative site name	County
SUFF0025	30	3	Braiseworth	Suffolk
SUFF0036	30	3	Burgate	Suffolk
SUFF0043	5	3	Charsfield	Suffolk
SUFF0049	5	3	Coddenham	Suffolk
SUFF0054	7	3	Creeting St Mary	Suffolk
SUFF0088	30	3	Great Barton	Suffolk
SUFF0092	3	3	Great Finborough	Suffolk
SUFF0098	7	3	Hadleigh	Suffolk
SUFF0099	5	3	Hatcheston	Suffolk
SUFF0114	5	3	Icklingham	Suffolk
SUFF0116	3	3	Ingham	Suffolk
SUFF0117	5	3	Ixworth	Suffolk
SUFF0118	5	3	Kedington	Suffolk
SUFF0124	7	3	Lackford	Suffolk
SUFF0125	7	3	Lakenheath	Suffolk
SUFF0127	3	3	Lawshall	Suffolk
SUFF0130	3	3	Leiston	Suffolk
SUFF0132	5	3	Linstead Magna	Suffolk
SUFF0134	3	3	Little Cornard	Suffolk
SUFF0136	5	3	Little Waldingfield	Suffolk
SUFF0147	5	3	Mildenhall	Suffolk
SUFF0148	5	3	Monk Soham	Suffolk
SUFF0151	30	3	Nacton	Suffolk

IDNO	h=20	h=30	Parish or comparative site name	County
SUFF0154	5	3	Nettlestead	Suffolk
SUFF0160	3	3	Ousden	Suffolk
SUFF0163	5	3	Parham	Suffolk
SUFF0165	30	3	Pettaugh	Suffolk
SUFF0168	7	3	Preston St Mary	Suffolk
SUFF0169	3	3	Ramsholt	Suffolk
SUFF0175	30	3	Ringshall	Suffolk
SUFF0180	5	3	Shimpling	Suffolk
SUFF0186	5	3	St Margaret South Elmham	Suffolk
SUFF0188	7	3	Stanstead	Suffolk
SUFF0189	7	3	Stanton	Suffolk
SUFF0197	7	3	Stuston	Suffolk
SUFF0208	30	3	Thrandeston	Suffolk
SUFF0216	7	3	Waldringfield	Suffolk
SUFF0218	5	3	Walsham Le Willows	Suffolk
SUFF0230	7	3	Wickham Skeith	Suffolk
SUFF0236	7	3	Wixoe	Suffolk
SURR0044	5	3	West Clandon	Surrey
SURR0045	7	3	West Horsley	Surrey
TYNE0001	33	3	Longbenton	Tyne and Wear
WARW0001	5	3	Alcester	Warwickshire
WARW0010	7	3	Bidford on Avon	Warwickshire
WARW0013	5	3	Brailes	Warwickshire

IDNO	h=20	h=30	Parish or comparative site name	County
WARW0014	30	3	Brandon and Bretford	Warwickshire
WARW0032	7	3	Honington	Warwickshire
WARW0051	30	3	Princethorpe	Warwickshire
WARW0062	30	3	Temple Grafton	Warwickshire
WARW0064	30	3	Wappenbury	Warwickshire
WARW0068	5	3	Welford on Avon	Warwickshire
Wigh0003	9	3	Brighstone	Isle of Wight
WILT0008	7	3	Box	Wiltshire
WILT0026	5	3	Chiseldon	Wiltshire
WILT0035	7	3	Durnford	Wiltshire
WILT0049	3	3	Lacock	Wiltshire
WILT0056	5	3	Market Lavington	Wiltshire
WILT0058	3	3	Marston Maysey	Wiltshire
WILT0066	5	3	Salisbury	Wiltshire
WILT0069	9	3	Stanton St Quintin	Wiltshire
WORC0010	7	3	Bredon	Worcestershire
WORC0017	3	3	Cleeve Prior	Worcestershire
WSus0002	3	3	Amberley	West Sussex
WSus0012	5	3	Bramber	West Sussex
WSus0025	5	3	Findon	West Sussex
WSus0033	5	3	Lavant	West Sussex

Table D: Members of H30 Group 4

IDNO	h=20	h=30	Parish or comparative site name	County
C004	4	4	Marsh Leys Farm, Kempston	Bedfordshire
C017	12	4	Little Paxton Quarry, Diddington	Cambs
C046	24	4	NW sector, Little Chester	Derbyshire
C048	4	4	SE defences and extra-mural, Little Ch	Derbyshire
C088	4	4	Wickford 60	Essex
C149	4	4	Verulamium Wheeler 8	Hertfordshi
C224	12	4	Pentney	Norfolk
C243	24	4	Catterick site 452	North Yorkshire
C251	4	4	Victoria Cave, Settle	North Yorkshire
C255	4	4	Kettering	Northamptonshire
HERT0009	4	4	Berkhamsted	Hertfordshire
NORF0124	12	4	Great Witchingham	Norfolk
SUFF0045	24	4	Clare	Suffolk
WSus0022	4	4	Eartham	West Sussex

Table E: Members of H30 Group 5

IDNO	h=20	h=30	Parish or comparative site name	County
C007	6	5	3 Locks, Stoke Hammond	Buckinghamshire

Table F: Members of H30 Group 6

IDNO	h=20	h=30	Parish or comparative site name	County
C011	8	6	Mill Close, Caldecotte	Buckinghamshire
C031	19	6	Bewcastle	Cumbria

Table G: Members of H30 Group 7

IDNO	h=20	h=30	Parish or comparative site name	County
C014	10	7	Great Staughton 1	Cambridgeshire
C015	10	7	Great Staughton 2	Cambridgeshire
C029	10	7	Duckpool, Morwenstow	Cornwall

Table H: Members of H30 Group 8

IDNO	h=20	h=30	Parish or comparative site names	County
BEDF0034	14	8	Shillington	Bedfordshire
C019	14	8	Stonea Grange casual	Cambridgeshire
C023	14	8	25 Bridge Street, Chester	Cheshire
C032	14	8	Birdoswald	Cumbria
C045	14	8	Little Chester	Derbyshire
C056	14	8	Dorchester 19	Dorset
C057	26	8	Dorchester county H 1 to 3	Dorset
C059	28	8	Halstock villa	Dorset
C067	28	8	Brough on Humber 47	East Riding of Yorkshire
C068	14	8	Rudston 108	East Riding of Yorkshire
C070	32	8	Angel Yard, Colchester	Essex
C072	14	8	Braintree 72	Essex
C073	28	8	Chelmsford 69	Essex
C075	28	8	Chignall Roman villa	Essex
C076	14	8	Colchester Balkerne Lane 37	Essex
C078	14	8	Colchester Lion Walk 35	Essex
C079	14	8	Colchester museum 34	Essex
C085	32	8	Ivy Chimneys	Essex
C110	32	8	Lawrence Weston	Gloucestershire
C114	14	8	Sea Mills	Gloucestershire
C122	32	8	Holybourne	Hampshire
C124	32	8	Jewry Street Winchester	Hampshire

IDNO	h=20	h=30	Parish or comparative site names	County
C137	28	8	Boxmoor 109	Hertfordshire
C138	14	8	Cow Roast Marina 78	Hertfordshire
C140	28	8	Dickets Mead 96	Hertfordshire
C145	14	8	Puckeridge-Braughing	Hertfordshire
C146	14	8	Verulamium Frere 6	Hertfordshire
C158	14	8	Eccles 102	Kent
C163	28	8	Reculver	Kent
C166	14	8	Springhead nurseries	Kent
C167	14	8	Springhead small sites	Kent
C169	14	8	Thurnham	Kent
C179	14	8	Causeway Lane, Leicester	Leicestershire
C180	14	8	Leicester Jewry Wall 26	Leicestershire
C181	14	8	Lincoln 1	Lincolnshire
C195	32	8	HGA02, Shadwell	London
C199	28	8	Roman Tower, Shadwell	London
C202	26	8	Temple of Mithras	London
C207	14	8	Brampton	Norfolk
C212	39	8	Caister by Yarmouth extra mural	Norfolk
C217	14	8	Crownthorpe	Norfolk
C230	14	8	Venta south	Norfolk
C235	14	8	Aldborough 46	North Yorkshire
C237	28	8	Catterick reg 1970	North Yorkshire
C241	28	8	Catterick site 433	North Yorkshire
C253	32	8	Cosgrove	Northamptonshire
C284	14	8	Wroxeter 25	Shropshire
C288	28	8	Camerton 58	Somerset
C309	14	8	Chichester 48	Sussex
C310	14	8	Chichester 49	Sussex
C311	14	8	Chichester museum 23	Sussex
C319	14	8	South Shields	Tyne and Wear
C320	14	8	South Shields 112	Tyne and Wear
C341	32	8	East Grimstead	Wiltshire
C362	28	8	Westbury	Wiltshire
C367	14	8	Manchester 127	Manchester

IDNO	h=20	h=30	Parish or comparative site names	County
CAMB0012	28	8	Burwell	Cambridgeshire
CAMB0052	26	8	Pidley cum Fenton	Cambridgeshire
DORS0006	28	8	Burleston	Dorset
DORS0034	28	8	Pamphill	Dorset
ESSE0007	14	8	Beaumont cum Moze	Essex
ESSE0022	14	8	Colchester	Essex
ESSE0096	32	8	Steeple Bumpstead	Essex
ESSE0107	14	8	Wickford	Essex
ESus0006	14	8	Beddingham	East Sussex
ESus0013	14	8	Firle	East Sussex
EYrk0001	14	8	Bainton	East Riding of Yorkshire
EYrk0008	28	8	Bridlington	East Riding of Yorkshire
EYrk0035	14	8	Pocklington	East Riding of Yorkshire
GLOU0019	14	8	Dymock	Gloucestershire
GLOU0031	14	8	Newent	Gloucestershire
HAMP0006	14	8	Basingstoke	Hampshire
HAMP0024	14	8	Clanfield	Hampshire
HAMP0029	28	8	Corhampton and Meonstoke	Hampshire
HAMP0031	28	8	Crondall	Hampshire
HAMP0049	14	8	Greywell	Hampshire
HAMP0088	39	8	Preston Candover	Hampshire
HAMP0101	14	8	Stratfield Saye	Hampshire

IDNO	h=20	h=30	Parish or comparative site names	County
HAMP0104	54	8	Swanmore	Hampshire
HAMP0117	14	8	Winchester	Hampshire
HERE0033	14	8	Weston under Penyard	Herefordshire
HERT0038	14	8	St Michael	Hertfordshire
KENT0029	28	8	Cobham	Kent
KENT0033	14	8	Darenth	Kent
KENT0101	14	8	Sheldwich	Kent
LEIC0031	28	8	Frisby	Leicestershire
LINC0002	28	8	Ancaster	Lincolnshire
LINC0057	14	8	Hatton	Lincolnshire
LINC0098	14	8	Osbournby	Lincolnshire
LINC0118	14	8	Sleaford	Lincolnshire
LINC0124	26	8	Stixwould and Woodhall	Lincolnshire
Nhmp0077	14	8	Towcester	Northamptonshire
Nhum0003	14	8	Corbridge	Northumberland
NORF0004	14	8	Alderford	Norfolk
NORF0037	14	8	Bracon Ash	Norfolk
NORF0040	14	8	Brampton	Norfolk
NORF0043	14	8	Brettenham	Norfolk
NORF0060	14	8	Caistor St Edmund	Norfolk
NORF0063	28	8	Carleton Rode	Norfolk
NORF0067	14	8	Cawston	Norfolk
NORF0081	14	8	Ditchingham	Norfolk
NORF0181	14	8	Long Stratton	Norfolk
NORF0186	14	8	Marsham	Norfolk

IDNO	h=20	h=30	Parish or comparative site names	County
NORF0197	14	8	Mundham	Norfolk
NORF0210	14	8	North Walsham	Norfolk
NORF0239	14	8	Saham Toney	Norfolk
NORF0245	14	8	Sedgeford	Norfolk
NORF0273	14	8	Stradsett	Norfolk
NORF0307	14	8	West Acre	Norfolk
NOTT0011	39	8	Collingham	Nottinghamshire
NOTT0048	39	8	Perlethorpe cum Budby	Nottinghamshire
SOME0043	28	8	Seavington St Michael	Somerset
SUFF0001	14	8	Akenham	Suffolk
SUFF0093	14	8	Great Glemham	Suffolk
SUFF0106	28	8	Hintlesham	Suffolk
SUFF0107	28	8	Hitcham	Suffolk
SUFF0128	14	8	Laxfield	Suffolk
SUFF0159	14	8	Otley	Suffolk
SUFF0161	14	8	Pakenham	Suffolk
SUFF0162	39	8	Palgrave	Suffolk
SUFF0185	28	8	St John Ilketshall	Suffolk
SUFF0192	14	8	Stonham Aspal	Suffolk
SUFF0200	14	8	Sutton	Suffolk
SUFF0220	14	8	Wenhaston with Mells Hamlet	Suffolk
SUFF0239	54	8	Worlington	Suffolk
SUFF0242	14	8	Wyverstone	Suffolk

IDNO	h=20	h=30	Parish or comparative site names	County
SURR0023	14	8	Leatherhead	Surrey
SURR0042	14	8	Wanborough	Surrey
Wigh0002	54	8	Bembridge	Isle of Wight
Wigh0004	54	8	Calbourne	Isle of Wight
Wigh0014	14	8	Shalfleet	Isle of Wight
WILT0064	14	8	Pitton and Farley	Wiltshire
WSus0038	14	8	Patching	West Sussex

Table I: Members of H30 Group 9

IDNO	h=20	h=30	Parish or comparative site names	County
C020	15	9	Stonea Grange excavation	Cambridgeshire
C041	15	9	Papcastle	Cumbria
C172	15	9	Westhawk Farm	Kent
C174	15	9	Burrow in Lonsdale	Lancashire
C198	15	9	Roman Quay, St Magnus House	London
C258	15	9	Coventina's Well 124	Northumberland
C033	20	9	Brough under Stainmore	Cumbria
C043	20	9	Watercrook	Cumbria
C176	20	9	Ribchester 129	Lancashire
C244	20	9	Catterick Site 46	North Yorkshire
C039	21	9	Old Carlisle	Cumbria
C040	21	9	Old Penrith	Cumbria
CORN0011	21	9	Ludgvan	Cornwall
C240	42	9	Catterick site 253	North Yorkshire

Table J: Members of H30 Group 10

IDNO	h=20	h=30	Parish or comparative site names	County
C026	16	10	Holt	Cheshire
C028	18	10	Middlewich/Kinderton	Cheshire
C036	18	10	Kirkby Thore	Cumbria
C042	22	10	Ravensglass	Cumbria
C177	22	10	Walton-Le-Dale	Lancashire
C178	22	10	Wilderspool	Lancashire
C225	22	10	Snettisham Bypass	Norfolk
C260	45	10	Vindolanda 2003	Northumberland
C261	18	10	Vindolanda 2004	Northumberland
C263	45	10	Vindolanda fort	Northumberland
C276	16	10	Wilcote 1993-1996	Oxfordshire
C344	18	10	Kennet (Silbury)	Wiltshire
CHES0039	52	10	Middlewich	Cheshire
STAF0044	52	10	Wall	Staffordshire
SUFF0046	16	10	Claydon	Suffolk

Table K: Members of H30 Group 11

IDNO	h=20	h=30	Parish or comparative site names	County
C058	27	11	Dorchester hospital	Dorset
C061	27	11	Jordans Hill 135	Dorset

Table L: Members of H30 Group 12

IDNO	h=20	h=30	Parish or comparative site names	County
C097	34	12	Cirencester St Michaels 42	Gloucestershire
C117	34	12	Whittington Court	Gloucestershire
C164	34	12	Richborough 119	Kent
C353	34	12	Silbury Wells	Wiltshire

Table M: Members of H30 Group 13

IDNO	h=20	h=30	Parish or comparative site names	County
C193	38	13	Fenchurch Street	London
C314	48	13	Fishbourne 111	Sussex

Table N: Members of H30 Group 14

IDNO	h=20	h=30	Parish or comparative site names	County
C227	40	14	Swanton Morley	Norfolk
C364	49	14	Dodderhill, Droitwich	Worcestershire

Table O: Members of H30 Group 15

IDNO	h=20	h=30	Parish or comparative site names	County
C236	41	15	Catterick RAF 1966	North Yorkshire

Table P: Members of H30 Group 16

IDNO	h=20	h=30	Parish or comparative site name	County
C245	43	16	Filey	North Yorkshire
C246	43	16	Goldsborough	North Yorkshire
C247	43	16	Huntcliff	North Yorkshire
C250	43	16	Scarborough	North Yorkshire

Table Q: Members of H30 Group 17

IDNO	h=20	h=30	Parish or comparative site name	County
C249	44	17	Roecliffe	North Yorkshire

Table R: Members of H30 Group 18

IDNO	h=20	h=30	Parish or comparative site	County
C365	50	18	Hanbury Street, Droitwich	Worcestershire

Table S: Members of H30 Group 19

IDNO	h=20	h=30	Parish or comparative site	County
NYrk0048	56	19	Haxby	North Yorkshire
SHRO0008	56	19	Claverley	Shropshire

Table T: Members of H30 Group 20

IDNO	h=20	h=30	Parish or comparative site	County
SOME0013	57	20	Chilton Cantelo	Somerset

Table U: Members of H30 Group 21

IDNO	h=20	h=30	Parish or comparative site	County
STAF0038	58	21	Swindon	Staffordshire

Table V: Members of H30 Group 22

IDNO	h=20	h=30	Parish or comparative site	County
SUFF0227	59	22	Wherstead	Suffolk
Wigh0017	61	22	Yarmouth	Isle of Wight

Table W: Members of H30 Group 23

IDNO	h=20	h=30	Parish or comparative site	County
Wigh0010	60	23	Newchurch	Isle of Wight

Table X: Members of H30 Group 24

IDNO	h=20	h=30	Parish or comparative site	County
WILT0068	62	24	St Paul Malmesbury without	Wiltshire

Appendix C: Tables

Table 1: Coin periods used by Reece and Casey

Date range	Reece Period	Casey Period
Pre-AD41/43	1	Pre - 1
AD 41-54	2	1
54-68	3	2
69-96	4	3 and 4 (AD 69-81=Period 3; AD 81-96=Period 4)
96-117	5	5
117-138	6	6
138-161	7	7
161-180	8	8
180-192	9	9
193-222	10	10 and 11 (AD 193-217=Period 10; AD 218-238=Period 11
222-238	11	12 and 13 (AD 222-235=Period 12; AD 235-238=Period 13)
238-260	12	14, 15, 16 and 17 (AD 238-244:Period 14; AD 244-249=Period 15; AD 249-253= Period 16; AD 253-260=Period 17)
260-275	13	18 (barbarous radiates are allocated to this period; issues of Aurelian are allocated to Period 19)
275-296	14 (barbarous radiates are allocated by Reece to this period)	19 and 20 (AD 275-286=Period 19; AD 286-296=Period 20)
296-317	15	21
317-330	16	22
330-348	17	23
348-364	18	24
364-378	19	25
378-388	20	26
388-402	21	27

Table 2: Features of coin assemblages used to diagnose site function

Site type	Diagnostic feature	Technique used	Reference
Military	A peak of early coin loss followed by a relatively weak pattern from the beginning of the third century AD	*Per mill* histograms	Davies and Gregory 1991, 71; Guest 2008f, 139; Guest 2008g, 55.
Military	Cluster groups which date to the early Roman period	Cluster Analysis	Lockyear 2000, 403.
Military	Groups which fall within quadrant with above average early coins	Correspondence Analysis	Lockyear 2000, 413.
Urban	A higher proportion of late third century coin (AD 260-296) when compared with mid to late fourth century coin (AD 330-402)	ABCD aggregation method	Reece 1972; Reece 1988a.
Urban	A large volume of coins lost	n/a	Esmonde Cleary 1989, 95.
Urban	Cluster groups dating to the mid Roman period	Cluster Analysis	Lockyear 2000, 403.
Urban	Sites falling within quadrants associated with above average numbers of early coin, in particular in Reece periods 1 to 6 and sites falling at the centre of the graph	Correspondence Analysis	Lockyear 2000, 403?
Rural	A higher proportion of mid to late fourth century coin (AD 330-402) when compared with late third century coin (AD 260-296)	ABCD aggregation method	Reece 1972; Reece 1988a; Moorhead 2001, 90.
Rural	Peak in coin loss in the period AD 330-348	*Per mill* values	Davies and Gregory 1991, 75.

Site type	Diagnostic feature	Technique used	Reference
Rural	Cluster groups dating to the late Roman period	Cluster Analysis	Lockyear 2000, 403.
Rural	Sites falling within quadrants associated with the late Roman period	Correspondence Analysis	Lockyear 2000, 403.
Rural – 'villa'	Large volume of coins	n/a	Esmonde Cleary 1989, 94.
Rural – 'farmstead'	No more than 50 coins	n/a	Esmonde Cleary 1989, 94.
Temple	Peak in period AD 364-378	*Per mill* values	Davies and Gregory 1991, 71-5, Moorhead 2001, 93.
Temple	Low percentage of radiate coinage and peak in period AD 364-378	*Per mill* values	Davies 1985, 8.
Temple – 'votive'	A peak of early coin loss followed by a relatively weak pattern of coin loss in the third century and a decline throughout the fourth century	Cumulative frequency analysis	Guest 2008f, 139; Walton 2008, 289.
Temple – 'votive'	Large volume of coins and presence of *minimissimi*	n/a	Esmonde Cleary 1989, 95.

Table 3: Cluster Analysis Groups at H30 and H20.

Height 30	Height 20	Characteristics
1	1, 11, 13, 17, 23, 25, 31, 35, 46, 51, 53	Early Roman coin loss
2	2, 29, 36, 47	Above average coin loss in P18-21
3	3, 5, 7, 9, 30, 33, 37	Close to the PASM
4	4, 12, 24	Above average coin loss in P13-14
5	6	One site with only 12 coins
6	8, 19	Addenda of only 3 coins.
7	10	2 assemblages from one site (Great Staughton) plus Duckpool, Cornwall
8	14, 26, 28, 32, 39, 54	Above average coin loss in P1-14
9	15, 20, 21, 42	Above average coin loss in P4-9
10	16, 18, 22, 45, 52	Above average coin loss in P1-9
11	27	2 sites
12	34	Above average coin loss in P13-21 (includes Richborough)
13	38, 48	2 sites
14	40, 49	2 sites
15	41	Addenda of only 2 coins
16	43, 55	Above average coin loss in P19-21
17	44	Hoard
18	50	Addenda of 2 coins
19	56	Hoard
20	57	Hoard
21	58	Hoard
22	59, 61	Hoard
23	60	Hoard
24	62	Hoard

Table 4: National and regional mean data

Mean type	Number of coins	Number of sites/parishes
Reece's British Mean	168828	139 (without Richborough)
Comparative Mean	223655	367 (excludes C228 duplication)
PAS Mean	38167	447 (excludes 11 hoards identified by CA)
Walton's British Mean	212497	813 (excludes Richborough)
Fosse Way North Mean	9276	78
Fosse Way South Mean	28891	369
Wiltshire Mean	1153	14
Isle of Wight Mean	649	10
Lincolnshire Mean	2014	31
Suffolk Mean	5986	67

Table 5: Hoards removed from PAS Mean calculations

Parish ID	Parish	County	Total coins
HERE0017	Laysters	Herefordshire	31
NORF0124	Great Witchingham	Norfolk	45
SUFF0045	Clare	Suffolk	22
SUFF0227	Wherstead	Suffolk	22
WIGH0017	Yarmouth	Isle of Wight	142
NYRK0048	Haxby	North Yorkshire	66
SHRO0008	Claverley	Shropshire	2000
SOME0013	Chilton Cantelo	Somerset	52
WARW0014	Brandon and Bretford	Warwickshire	23
WIGH0010	Newchurch	Isle of Wight	85
WILT0068	St Paul Malmesbury without	Wiltshire	24

Table 6: Coin totals used in calculation of mean values

Reece period	Dates	PAS parish totals	Comparative coin totals	Walton's Mean coin totals	Walton's Mean dataset (ex. Richborough)
1	Before AD 41	396	1518	1914	1730
2	AD 41-54	182	2598	2780	2376
3	AD 54-69	138	1328	1466	1324
4	AD 69-96	625	6989	7614	7228
5	AD 96-117	431	5575	6006	5913
6	AD 117-138	486	5911	6397	6321
7	AD 138-161	967	7598	8565	8453
8	AD 161-180	289	3748	4037	4000
9	AD 180-193	181	1142	1323	1309
10	AD 193-222	896	2500	3396	3343
11	AD 222-238	397	1112	1509	1496
12	AD 238-260	663	1452	2115	2076
13	AD 260-275	4662	29040	33702	28943
14	AD 275-296	3929	23505	27434	23335
15	AD 296-317	1206	3785	4991	4640
16	AD 317-330	2505	7336	9841	8986
17	AD 330-348	10566	49218	59784	49657
18	AD 348-364	3431	18614	22045	18808
19	AD 364-378	5501	20785	26286	23437
20	AD 378-388	207	828	1035	920
21	AD 388-402	509	29073	29582	6760
Total		38167	223655	261822	211055

Table 7: Mean values for coin loss in Roman Britain

Reece period	Dates	'PAS Mean'	Reece's British Mean	Comparative Mean	Walton's Mean values (with Richborough)	Walton's Mean values (ex. Richborough)
1	Before AD 41	10	6.47	6.78	7.31	8.19
2	AD 41-54	5	11.73	11.61	10.61	11.25
3	AD 54-69	4	5.9	5.93	5.59	6.27
4	AD 69-96	16	30.85	31.24	29.08	34.24
5	AD 96-117	11	19.9	24.92	22.93	28.01
6	AD 117-138	13	15.79	26.42	24.43	29.94
7	AD 138-161	25	18.67	33.97	32.71	40.05
8	AD 161-180	8	11.52	16.75	15.41	18.95
9	AD 180-193	5	4.66	5.1	5.05	6.2
10	AD 193-222	23	15.18	11.17	12.97	15.83
11	AD 222-238	10	7.29	4.97	5.76	7.08
12	AD 238-260	17	8.08	6.49	8.07	9.83
13	AD 260-275	122	144.3	129.84	128.72	137.13
14	AD 275-296	103	121.24	105.09	104.78	110.56
15	AD 296-317	32	17.49	16.92	19.06	21.98
16	AD 317-330	66	44.13	32.8	37.58	42.57
17	AD 330-348	277	245.54	220.06	228.33	235.27
18	AD 348-364	90	98.22	83.22	84.19	89.11
19	AD 364-378	144	118	92.93	100.39	110.04
20	AD 378-388	5	4.8	3.7	3.95	4.35
21	AD 388-402	13	50.25	129.99	112.98	32.02

Table 8 Mean values for the areas to the north and south of the Fosse Way

Reece period	Dates	North of Fosse Way coin totals	North of Fosse Way Mean values	South of Fosse Way coin totals	South of Fosse Way Mean values
1	Before AD 41	107	11.53	289	10
2	AD 41-54	74	7.97	108	3.73
3	AD 54-69	43	4.63	95	3.28
4	AD 69-96	175	18.86	450	15.57
5	AD 96-117	123	13.26	308	10.66
6	AD 117-138	148	15.95	338	11.69
7	AD 138-161	259	27.92	708	24.5
8	AD 161-180	105	11.31	184	6.36
9	AD 180-193	44	4.74	137	4.74
10	AD 193-222	419	45.17	477	16.51
11	AD 222-238	224	24.14	173	5.98
12	AD 238-260	154	16.6	509	17.61
13	AD 260-275	1101	118.69	3561	123.25
14	AD 275-296	1139	122.79	2790	96.56
15	AD 296-317	173	18.65	1033	35.75
16	AD 317-330	493	53.14	2012	69.64
17	AD 330-348	2138	230.48	8428	291.71
18	AD 348-364	962	103.7	2469	85.45
19	AD 364-378	1281	138.09	4220	146.06
20	AD 378-388	35	3.77	172	5.95
21	AD 388-402	79	8.51	430	14.88
Total		**9276**	**1000**	**28891**	**1000**

Table 9: Mean values for coin loss in four counties

Reece period	Dates	Wiltshire Mean values	Isle of Wight Mean values	Lincolnshire Mean values	Suffolk parish Mean values
1	Before AD 41	2.28	44.68	15.39	13.53
2	AD 41-54	8.38	7.70	1.48	1.67
3	AD 54-69	2.28	9.24	3.47	1.83
4	AD 69-96	6.09	38.52	15.88	17.87
5	AD 96-117	6.09	32.36	15.39	10.85
6	AD 117-138	2.28	41.60	14.89	11.69
7	AD 138-161	6.85	66.26	40.71	26.06
8	AD 161-180	1.52	46.22	11.42	6.18
9	AD 180-193	2.28	23.11	5.95	4
10	AD 193-222	1.52	24.65	34.26	19.87
11	AD 222-238	6.09	15.41	7.94	5.01
12	AD 238-260	8.38	10.79	12.41	17.87
13	AD 260-275	99.08	67.80	91.36	91.54
14	AD 275-296	67.07	50.85	83.41	84.36
15	AD 296-317	22.86	46.22	31.28	40.92
16	AD 317-330	41.15	90.91	92.85	79.51
17	AD 330-348	189.78	181.82	255.21	381.05
18	AD 348-364	70.12	75.50	113.7	89.2
19	AD 364-378	307.16	110.94	130.08	82.35
20	AD 378-388	11.43	6.16	6.45	4.51
21	AD 388-402	16	9.24	16.38	10.02

Table 10: *Per mill* values for the PAS Denominational Mean

Reece period	Aureus	Denarius	Sestertius	Dupondius & As
1	0.39	90.9	0.26	4.35
2	0	1.71	1.31	29.68
3	0.26	15.17	1.45	12.79
4	0.13	52.11	6.99	68.61
5	0	41.29	27.44	33.11
6	0	37.73	29.95	27.84
7	0	56.2	73.62	51.32
8	0	15.7	38.39	13.59
9	0	8.57	22.82	4.61
10	0	149.75	6.2	4.61
11	0.13	55.41	4.48	4.09
12	0.13	1.45	2.63	2.63

Table 11: PAS Period 1 sub-divisions

Period 1 subdivisions	Date range	No. of coins
1	211-200 BC	1
2	199-190 BC	0
3	189-180 BC	0
4	179-170 BC	2
5	169-160 BC	0
6	159-150 BC	6
7	149-140 BC	5
8	139-130 BC	14
9	129-120 BC	10
10	119-110 BC	38
11	109-100 BC	33
12	99-90 BC	28
13	89-80 BC	48
14	79-70 BC	38
15	69-60 BC	22
16	59-50 BC	28
17	49-40 BC	103
18	39-30 BC	124
19	29 BC-AD 14	107
20	AD 14-37	86
21	AD 37-41	11
Total		704
Uncertain issue date		31

Table 12: Denominational composition of PAS Period 1 dataset

Denomination	Total
Aureus	3
Denarius	688
Quinarius	2
Sestertius	2
Dupondius	5
Dupondius or As	5
As	23
Semis, triens or quadrans	3
Provincial	4

Table 13: Members of Cluster Analysis H30 Group 10

IDNO	h=20	h=30	Comparative parish or site	County	Totals
C026	16	10	Holt	Cheshire	71
C028	18	10	Middlewich/Kinderton	Cheshire	96
C036	18	10	Kirkby Thore	Cumbria	38
C042	22	10	Ravensglass	Cumbria	48
C177	22	10	Walton-Le-Dale	Lancashire	151
C178	22	10	Wilderspool	Lancashire	154
C225	22	10	Snettisham Bypass	Norfolk	41
C260	45	10	Vindolanda 2003	Northumberland	34
C261	18	10	Vindolanda 2004	Northumberland	37
C263	45	10	Vindolanda fort	Northumberland	66
C276	16	10	Wilcote 1993-1996	Oxfordshire	20
C344	18	10	Kennet (Silbury)	Wiltshire	45
CHES0039	52	10	Middlewich	Cheshire	35
STAF0044	52	10	Wall	Staffordshire	40
SUFF0046	16	10	Claydon	Suffolk	24

Table 14: Hoards with Period 1 issues

Hoard name	County	Hoard close with	Reference
Warminster	Wiltshire	Republican	Meadows and Robinson 1997
Raydon	Suffolk	Republican	Newman 1997
Chippenham	Cambridgeshire	Claudius	Robertson 2000, 4-5.
Old Buckenham	Norfolk	Claudius	Davies 1997a; Davies 2002a.
Norton Subcourse	Norfolk	Claudius	Burnett and Gregory 1988; Burnett 1992a
Sutton	Suffolk	Claudius	Burnett, Plouviez and Tuckett 1992
Overley Hill, Wrekin,	Shropshire	Flavian	Burnett 1997
Skellow	South Yorkshire	Flavian	Crawley and Meadows 1997
Howe	Norfolk	Flavian	Burnett 1984a; Burnett 1986b; Burnett 1988; Davies 1997b; Davies 2002b
Lakenheath	Suffolk	Gaius	Briscoe, Carson and Dolley 1959.
Lightcliffe	Yorkshire	Gaius	*Numismatic Chronicle* 1861
Woodham Mortimer	Essex	Gaius	Hobbs 1992
Boston Spa	Yorkshire	Hadrian	Mays 1997
Colchester	Essex	Hadrian	Leins 2005a
Eriswell,	Suffolk	Nero	Kent and Burnett 1984
Scole	Norfolk	Nero	Burnett 1986a
Needham	Norfolk	Nero	Davies, Meadows and Williams 1997
Selby	Yorkshire	Nero	Barclay 2002
East Dereham	Norfolk	Tiberius	Marsden 2007a; Marsden 2008a.
Woolland	Dorset	Tiberius	Bland 1997b
Membury	Wiltshire	Tiberius	Howgego and King 1992; Orna-Ornstein

			1997b
Great Packington	Warwickshire	Tiberius	Wear and Williams 2002
Crondall	Hampshire	Tiberius	Leins 2004; Leins 2005b
Winchester area/Owslebury	Hampshire	Tiberius	Leins 2006.
Mansfield Woodhouse	Nottinghamshire	Tiberius	Bauer 2007.
Albrighton	Shropshire	Tiberius	Abdy 2005.
Beck Row, Mildenhall	Suffolk	Flavian	Burnett 1984b.
Ashburnham	East Sussex	Republican	Ghey 2008
Hallaton/Leicestershire hoard,	Leicestershire	Republican	Leins (forthcoming)
Hallaton/Leicestershire hoard (spoil)	Leicestershire	Republican	Leins (forthcoming)

Table 15: Totals of Period 1 stray losses and site finds recorded by the PAS

County	Total number of coins from parishes with < 20 coins	Total number of coins from parishes with > 20 coins
North Yorkshire	13	1
Berkshire	7	0
Cumbria	7	0
Northamptonshire	3	4
Shropshire	7	0
Worcestershire	5	2
Dorset	6	0
Greater Manchester	6	0
South Yorkshire	6	0
Bedfordshire	3	1
Somerset	5	0
Derbyshire	2	1
Lancashire	3	0
Devon	2	0
Northumberland	2	0
West Midlands	2	0
Merseyside	1	0
Nottinghamshire	12	3
Hertfordshire	9	13
Isle of Wight	7	18
East Sussex	13	3
Kent	17	5

County	Total number of coins from parishes with < 20 coins	Total number of coins from parishes with > 20 coins
Staffordshire	32	22
Essex	29	10
Wiltshire	3	6
Leicestershire	15	7
Warwickshire	13	9
Buckinghamshire	6	3
Herefordshire	4	2
Cheshire	19	12
Cornwall	11	1
Gloucestershire	5	3
Suffolk	33	43
Norfolk	17	29
Hampshire	15	27
Lincolnshire	23	29
West Sussex	9	9
Oxfordshire	3	5
Surrey	10	10
East Yorkshire	7	8
Cambridgeshire	5	8
Durham	1	11
North Lincolnshire	0	32
Totals	398	337

Table 16: The function of comparative sites

Site function	Total number of comparative sites	Percentage of each site type	Total number of comparative sites with per mill value >=20	Percentage of each site type
Urban	103	28.0653951	15	24.59016393
Rural	108	29.42779292	11	18.03278689
Villa	52	14.16893733	3	4.918032787
Military	65	17.71117166	29	47.54098361
Temple	39	10.626703	3	4.918032787

Table 17: Period 1 subdivisions and hoard data

Period 1 subdivisions	Date range	No. of coins	PAS Period 1 profile	Hoard Period 1 profile	Crawford no. of dies Vol II, RRC
1	211-200 BC	1	1.42	0.554631	N/A
2	199-190 BC	0	0	0.554631	N/A
3	189-180 BC	0	0	0	N/A
4	179-170 BC	2	2.84	0	N/A
5	169-160 BC	0	0	0	N/A
6	159-150 BC	6	8.52	3.882418	804
7	149-140 BC	5	7.1	4.437049	949
8	139-130 BC	14	19.88	21.07598	1345
9	129-120 BC	10	14.2	13.86578	1245
10	119-110 BC	38	53.97	22.73988	1145
11	109-100 BC	33	46.87	35.49639	4120
12	99-90 BC	28	39.77	45.47976	3534
13	89-80 BC	48	68.18	88.18636	6111
14	79-70 BC	38	53.9	47.69828	2122
15	69-60 BC	22	31.25	42.15197	1757
16	59-50 BC	28	39.77	39.37881	2370
17	49-40 BC	103	146.3	161.3977	N/A
18	39-30 BC	124	176.13	136.4393	N/A
19	29 BC-AD 14	107	151.9	154.7421	N/A
20	AD 14-37	86	122.15	175.2634	N/A
21	AD 37-41	11	15.62	6.655574	N/A
Total		704			
Uncertain issue date		32			

Table 18: Summary of the Period 1 chronology of Continental hoards

Period 1 subdivisions	Date range	Arbanats, Gironde	Mont Souvance, Besançon	Meussia, Jura	Totals	Continental Period 1 *per mill* profile
1	211-200 BC	0	0	0	0	0
2	199-190 BC	0	0	0	0	0
3	189-180 BC	0	0	0	0	0
4	179-170 BC	0	0	0	0	0
5	169-160 BC	0	0	0	0	0
6	159-150 BC	0	2	1	3	2.06
7	149-140 BC	0	0	0	0	0
8	139-130 BC	13	6	3	22	15.15
9	129-120 BC	5	8	4	17	11.7
10	119-110 BC	50	3	21	74	50.96
11	109-100 BC	75	5	10	90	61.98
12	99-90 BC	56	9	18	83	57.16
13	89-80 BC	107	15	34	156	107.4380165
14	79-70 BC	86	5	21	112	77.13498623
15	69-60 BC	86	5	15	106	73.00275482
16	59-50 BC	106	9	22	137	94.35261708
17	49-40 BC	366	26	76	468	322.3140496

18	39-30 BC	1	6	46	53	36.50137741
19	29 BC-AD 14	0	5	61	66	45.45454545
20	AD 14-37	0	0	64	64	44.07713499
21	AD 37-41	0	0	1	1	0.688705234
Total		951	104	397	1452	

Table 19: Denominational composition of the PAS Period 2 dataset

Denarius	Sestertius	Dupondius	As	Dupondius or As
13	7	40	137	41

Table 20: Coin hoards terminating in issues of Claudius

Parish	County	Grid reference	Easting	Northing	Source
Colchester	Essex	TL988249	598800	224900	Robertson 2000
Colchester	Essex	TL995253	599500	225300	Robertson 2000
Colchester	Essex	TL993252	599300	225200	Robertson 2000
Richborough	Kent	TR324601	632400	160100	Robertson 2000
London	London	TQ327803	532700	180300	Robertson 2000
Minster Lovell	Oxon	SP324113	432400	211300	Robertson 2000
Wilcote	Oxon	SP371153	437100	215300	Robertson 2000
Santon Downham	Suffolk	TL815875	581500	287500	Robertson 2000
Mancetter	Warwickshire	SP318964	431800	296400	Robertson 2000
Worcester	Worcestershire	SO855555	385500	255500	Robertson 2000
Sea Mills	Bristol	ST555765	355500	176500	Robertson 2000
Nunney	Somerset	ST735455	373500	145500	Robertson 2000
Exeter	Devon	SX925925	292500	092500	Leins 2009

Table 21: Coin hoards including issues of Claudius

Site	Size	Composition	Total Claudian coins	Opens with	Closes with	Closing date (AD)	Reference
Warmington	1121	Silver	15	Republican	Nero	64	Wear and Ireland 2009
Chesterfield	7	Bronze	7	Claudius	Galba	68	Marsden 2007c
Selby	14	Silver & bronze	1	Republican	Nero	68	Barclay 2002
Exeter	11	Bronze	2	Claudius	Vespasian	73	Robertson 2000, 11.
Lincoln	10	Bronze	7	Claudius	Vespasian	73	Robertson 2000, 11.
Southwark	17	Bronze	3	Claudius	Vespasian	73	Robertson 2000, 11-12.
Budge Row	74	Silver	1	Republican	Vespasian	79	Robertson 2000, 14.
Heybridge, Maldon	'Many hundreds'	Silver and bronze	uncertain	Claudius	Vespasian	79	Robertson 2000, 13.
Overley Hill, east of Wrekin	14	Gold and silver	1	Republican	Vespasian	79	Burnett 1997
Shillington A	127	Gold	8	Tiberius	Domitian	79	Curteis and Burleigh 2002
Skellow	267	silver	1	Republican	Domitian	81	Crawley and Meadows, 1997
Howe	1	Gold and silver	1	Republican	Domitian	87	Robertson 2000, 18.
Timsbury	61	Bronze	24	Iron Age	Domitian	90	Robertson 2000, 18.
Kempsford	31	Bronze	3	Claudius	Domitian	96	Robertson 2000, 20.

Site	Size	Composition	Total Claudian coins	Opens with	Closes with	Closing date (AD)	Reference
Shorwell	74	Bronze	3	Claudius	Nerva	98	Abdy 2008h
Lavenham	197	Silver	1	Republican	Trajan	105	Robertson 2000, 23.
Barton Bendish	20	Bronze	1	Claudius	Hadrian	125	Marsden 2008b
Holdenhurst	677	Silver and bronze	15	Iron Age	Hadrian	138	Robertson 2000, 25.
Kenilworth	3	Silver	1	Claudius	Hadrian	138	Wear 2004
Mapledurham	4	Bronze	1	Claudius	Hadrian	138	Robertson 2000, 29.
Roustage, Wychwood	5	Bronze	1	Claudius	Hadrian	138	Robertson 2000, 29.
Wroxeter	43	?	1	Claudius	Hadrian	138	Robertson 2000, 27.
Croydon	281	Bronze	1	Claudius	Faustina II	155	Robertson 2000, 44.
Langford	25	Bronze	2	Claudius	Antoninus Pius	155	Robertson 2000, 32.
Swine	52	Silver and bronze	2	Mark Anthony	Marcus Aurelius	162	Robertson 2000, 48.
Potters Bar	72	Silver	1	Claudius	Commodus	176	Meadows, Orna-Ornstein and Williams 1997
Whitchurch	34	Bronze	3	Claudius	Marcus Aurelius	180	King 1997a

Site	Size	Composition	Total Claudian coins	Opens with	Closes with	Closing date (AD)	Reference
Latton	70	Bronze	19	Claudius	Crispina	182	Robertson 2000, 72.
Great Chesterford	198	Bronze	1	Claudius	Commodus	192	Robertson 2000, 68.
Tring	116	Silver and bronze	1	Claudius	Tetricus II	274	King 1997a
Coventina's Well	13490	Gold, silver and bronze	20	Republican	Gratian	388	Allason-Jones and Mackay 1985
Bath Sacred Spring	12597	Gold, silver and bronze	44	Iron Age	Late Roman	402	Walker 1988

Table 22: Totals and percentage values of Carausian coins by mint recorded by the PAS, at comparative sites and in hoards.

Mint	PAS totals	PAS % values	Comparative site totals	Comparative site % values	Hoard totals	Hoard % values
'C' mint	46	4.5	195	11.8	205	12.9
London	176	17.4	459	27.9	780	49.1
Rouen	4	3.9	10	0.6	9	0.56
Unattributed	780	77.5	979	59.5	592	37.3
Total	**1006**	**n/a**	**1643**	**n/a**	**1586**	**n/a**

Table 23: Breakdown of coin totals by mint from 11 comparative sites with Carausian coins.

Site	C mint	London	Rouen	Unmarked/other	Reference
Cirencester	20	64	2	108	Williams 2004, 42
Piercebridge	11	34	1	64	Williams 2004, 42
Richborough	30	82	4	248	Williams 2004, 42
Colchester	25	66	2	136	Williams 2004, 42
Silchester	29	68	1	140	Williams 2004, 42
Catterick	7	16	0	19	Williams 2004, 42
Kenchester	11	24	0	68	Williams 2004, 42
Aldborough	8	16	0	23	Williams 2004, 42
Verulamium	30	58	0	111	Williams 2004, 42
Lincoln	10	19	0	37	Williams 2004, 42
Lydney	14	12	0	25	Williams 2004, 42
Totals	**195**	**459**	**10**	**979**	

Table 24: Hoards ending in issues of Carausius

Carausian hoard	Reference
Asthall, Oxfordshire	King 1997b
Amersham, Bucks	Robertson 2000, 205
Canterbury	Robertson 2000, 207
Deal	Robertson 2000, 207
Worcester	Robertson 2000, 207
Lancaster	Robertson 2000, 207
Hammersmith, London	Robertson 2000, 209
Everton, Notts	Robertson 2000, 209
Bicester, Oxon	Robertson 2000, 209
Wroxeter, Shrops.	Robertson 2000, 209
Cheddar, Somerset	Robertson 2000, 209
Charterhouse on Mendip, Somerset	Robertson 2000, 210
Linchmere, Sussex	Robertson 2000, 210
Shelford, Cambs	Robertson 2000, 214
Chester	Robertson 2000, 215
Ripley, Derbyshire	Robertson 2000, 215
Bocking, Essex	Robertson 2000, 216
Rockbourne, Hants	Robertson 2000, 216
Walmersley, Bury	Robertson 2000, 217
Peterborough	Robertson 2000, 217
Epperstone, Notts	Robertson 2000, 218
Hoveringham, Notts	Robertson 2000, 218
Forest Hill with Shotover, Oxon	Robertson 2000, 218
Camerton, Somerset	Robertson 2000, 218
Felixstowe, Suffolk	Robertson 2000, 218
Bredicot, Worcs	Robertson 2000, 219
Elland, Yorkshire	Robertson 2000, 219
Thirsk, Yorks	Robertson 2000, 219
Thurstonland, Yorks	Robertson 2000, 219
Emneth, Norfolk	Robertson 2000, 222
Welney, Norfolk	Robertson 2000, 222
Dorchester, Dorset	Williams 2004, 48
Normanby, Lincolnshire	Williams 2004, 48

Baylham, Suffolk	Williams 2004, 49
Linchmere, Sussex	Robertson 2000, 210
South Norwood, Kent	Williams 2004, 52
Verulamium, Herts	Williams 2004, 52
Elveden II, Suffolk	Abdy and Leins 2005
Silchester Insula XVIII	Robertson 2000, 206
Croydon, Surrey	Robertson 2000, 210
Puncknoll, Dorset	Robertson 2000, 216
Margaretting, Essex	Robertson 2000, 216
Blackmoor, Hampshire	Bland 1982

Table 25: Selected hoards (with total coins by mint) ending in issues of Carausius

Site	C mint	London	Rouen	Unmarked/other	Reference
Dorchester	0	1	3	63	Williams 2004, 48
Normanby	6	5	1	57	Williams 2004, 48
Baylham	1	7	0	46	Williams 2004, 49
Linchmere	46	488	0	0	Robertson 2000, 210
South Norwood	0	4	0	44	Williams 2004, 52
Verulamium	0	3	0	15	Williams 2004, 52
Silchester	2	1	0	15	Robertson 2000, 206
Croydon	2	12	1	66	Robertson 2000, 210
Puncknoll	0	0	0	1	Robertson 2000, 216
Margaretting	4	6	0	0	Robertson 2000, 216
Blackmoor	36	101	4	279	Bland 1982
Total	**205**	**780**	**9**	**592**	

Table 26: Hoards ending with issues of Allectus

Site	Reference
Brightwell, Berkshire	Robertson 2000, 222
Watchfield, Berkshire	Robertson 2000, 222
Steeple Claydon, Bucks	Robertson 2000, 222
Somersham, Cambs	Robertson 2000, 222
Colchester, Essex	Robertson 2000, 222
Bisley, Gloucs.	Robertson 2000, 223
Gloucester	Robertson 2000, 223
Bitterne, Hants	Robertson 2000, 223
Blackmoor, Hants	Robertson 2000, 223
Godmanchester, Cambs	Robertson 2000, 224
Borden, Kent	Robertson 2000, 225
Canterbury, Kent	Robertson 2000, 225
Richborough, Kent	Robertson 2000, 226
Old Ford, London	Robertson 2000, 226
Cheapside, London	Robertson 2000, 226
Bale, Norfolk	Robertson 2000, 226
Caister by Yarmouth, Norfolk	Robertson 2000, 226
Burton Latimer, Northants	Robertson 2000, 226
Ewelme, Oxon	Robertson 2000, 227
Bath environs	Robertson 2000, 227
Camerton, Somerset	Robertson 2000, 227
Wedmore, Somerset	Robertson 2000, 228
Chalcott, Wilts	Robertson 2000, 228
East Harnham, Wilts	Robertson 2000, 228
Lacock, Wilts	Robertson 2000, 228
Droitwich, Worcs	Robertson 2000, 229
Leigh on Sea, Essex	Robertson 2000, 229
Claydon Pike, Glos.	Robertson 2000, 230
Forest of Dean, Glos.	Robertson 2000, 230
Sapperton, Glos.	Robertson 2000, 230
Crondall, Hants	Robertson 2000, 231
Richborough, Kent	Robertson 2000, 231
Fleet, Lincs	Robertson 2000, 231

Site	Reference
Well, Lincs	Robertson 2000, 231
Sparkford, Somerset	Robertson 2000, 232
Tickenham, Somerset	Robertson 2000, 232
Elveden II, Suffolk	Abdy and Leins 2005
Hipperholme, Yorks	Robertson 2000, 232

Table 27: Summary of late Roman coin data

Reece Period	PAS coin totals	PAS parish coin totals	Number of PAS parishes	Comparative sites coin totals	Number of comparative sites
17	12339	10566	448	49218	345
18	6173	3431	414	18614	319
19	6219	5501	407	20785	315
20	264	207	127	828	172
21	609	509	174	29073	245

Table 28: The function of comparative sites with above average coin loss by Reece period

Site function	Period 17 %	Period 18 %	Period 19 %	Period 20 %	Period 21 %
Urban	9	17	0	25	36
Rural	55	40	44	41	27
Villa	27	31	25	15	15
Military	0	3	13	8	8
Temple	9	6	19	11	15

Table 29: H20 Group 3 sub-divided at H20

Group	No. Of sites/parishes	Coin totals	Characteristics
Group 3	68	17269	Late third century peak and below average coin loss throughout the fourth century
Group 5	151	42355	Late third century peak and close to average coin loss throughout the fourth century
Group 7	158	40302	Below average late third century coin loss; above average coin loss from Period 17 onwards
Group 9	29	11381	Sites with late Roman emphasis, particularly from Period 18 to 21. Very high coin loss in Period 21
Group 30	28	3339	Short-lived fourth century sites (AD 300-60) with particular peak in Period 17.
Group 33	7	745	Late third century peak and slightly above average in early fourth century; below average coin loss throughout the rest of fourth century.
Group 37	2	381	Peaks in late 3rd century and Period 21. Possibly concealing two hoards – one of radiates; one of nummi?

Table 30: Summary of Cluster Analysis (H30) Group 16

IDNO	h=20	h=30	Comparative parish or sites	County	Totals
C245	43	16	Filey	North Yorks	35
C246	43	16	Goldsborough	North Yorks	21
C247	43	16	Huntcliff	North Yorks	25
C250	43	16	Scarborough	North Yorks	92

Table 31: Summary of Cluster Analysis (H30) Group 12

IDNO	h=20	h=30	Comparative parish or site	County	Totals
C097	34	12	Cirencester St Michaels 42	Gloucestershire	654
C117	34	12	Whittington Court	Gloucestershire	100
C164	34	12	Richborough 119	Kent	50767
C353	34	12	Silbury Wells	Wiltshire	36

Table 32: Totals of clipped and unclipped *siliquae* in the PAS dataset

Reece period	Total clipped *siliquae*	Total unclipped *siliquae*	Total *siliquae*	% clipped *siliquae*
18	76	185	261	29
19	71	95	166	42
20	43	33	76	56
21	145	39	184	78
Totals	335	352	687	n/a

Table 33: Hoards ending in issues of Honorius or later emperors

Site name	County	Reference	Notes
Maiden Castle	Dorset	Robertson 2000, 372	Gold
Good Easter	Essex	Bland 1997a; Abdy 2009g	Gold
Fareham	Hampshire	Webley and Abdy 2009	Gold
Lincoln area	Lincolnshire	Abdy 2008f	Gold
Boscombe Down	Wiltshire	Burnett 1992b	Gold
Rockbourne	Hampshire	Burnett 1992c	Gold
Compton Downs	Bedfordshire	Robertson 2000, 368-9	Silver
Cople	Bedfordshire	Abdy 2008c	Silver and 2 gold
Haynes	Bedfordshire	Inscker and Orna-Ornstein 2009	Silver
Kempston	Bedfordshire	Robertson 2000, 368	Silver
Kingston Lisle	Berkshire	Robertson 2000, 369	Silver and bronze
Reading	Berkshire	Robertson 2000, 369	Silver
Cottenham	Cambridgeshire	Abdy 2008b	Silver
Zennor	Cornwall	Robertson 2000, 371	Silver
Dorchester	Dorset	Robertson 2000, 372	Silver
Melcombe Horsey	Dorset	Williams and Abdy 2009	Silver
Piercebridge	Durham	Robertson 2000, 372-3	Silver and bronze
Lindsell	Essex	Orna-Ornstein 2009a	Silver
Sible Hedingham	Essex	Abdy 2008a	Silver
Sturmer	Essex	Robertson 2000, 373	Silver and 1 gold
Terling	Essex	Robertson 2000, 374	Gold and silver
Allington, North Stoneham	Hampshire	Robertson 2000, 376	Silver and 1 gold
Otterbourne	Hampshire	Robertson 2000, 375-6	Silver (2 hoards)
Silchester	Hampshire	Robertson 2000, 376	Silver (2 hoards)
Whitchurch	Hampshire	Robertson 2000, 377	Silver
Shalfleet	Isle of Wight	Lyne and Abdy 2004	Silver and 2 gold

Site name	County	Reference	Notes
Shanklin	Isle of Wight	Robertson 2000, 377-8	Silver and bronze
Canterbury	Kent	Robertson 2000, 378-9	Silver and bronze
Richborough	Kent	Robertson 2000, 380	Silver (Pit 98)
Sproxton	Leicestershire	Robertson 2000, 382	Silver
Deepdale, Barrow on Humber	Lincolnshire	Robertson 2000, 382-3	Silver and 1 gold
Nailsworth	Gloucestershire	Abdy 2008e	Silver
Osbournby	Lincolnshire	Robertson 2000, 384	Silver
South Ferriby	Lincolnshire	Robertson 2000, 383	Silver and bronze (2 hoards?)
Carleton St Peter	Norfolk	Robertson 2000, 386	Gold and silver
Fincham	Norfolk	Robertson 2000, 386	Silver
Thetford	Norfolk	Abdy 2009d	silver
Wormegay	Norfolk	Marsden 2007b	Silver
Balk	North Yorkshire	Barclay 2008, 204	Silver
Cattal	North Yorkshire	Barclay 1997; Barclay 2009b	Silver
Thirsk	North Yorkshire	Barclay 2009a	silver and 3 gold
Whitwell	Rutland	Bland 1997c	Silver and 2 gold
Camerton	Somerset	Robertson 2000, 390	silver
Chilton Polden	Somerset	Robertson 2000, 390	Silver and bronze
Holway	Somerset	Robertson 2000, 391	Silver
Paulton	Somerset	Robertson 2000, 390	Silver
Shapwick	Somerset	Robertson 2000, 390-1	Silver
Burgate	Suffolk	Bland and Johns 1997	Silver
Eye	Suffolk	Abdy 2009c	Silver
Freckenham	Suffolk	Robertson 2000, 392	Silver
Hoxne	Suffolk	Robertson 2000, 404-5	Gold, silver and

Site name	County	Reference	Notes
			bronze
Icklingham	Suffolk	Robertson 2000, 392-3	3 hoards (2 silver; 1 silver and bronze)
Lakenheath	Suffolk	Robertson 2000, 393-4	Silver
Mildenhall	Suffolk	Robertson 2000, 394-5	Silver
Tuddenham	Suffolk	Robertson 2000, 395	Silver
Worlington	Suffolk	Abdy 2009e	Silver
Alcester	Warwickshire	Robertson 2000	Silver and gold
Patching	West Sussex	Orna-Ornstein 2009b.	Gold and silver
Bishops Canning	Wiltshire	Guest, Bland, Orna-Ornstein and Robinson 1997	Silver and bronze
Bowerchalke	Wiltshire	Abdy 2008d; Algar, Johns and Hobbs 2009	Gold and silver
Colerne	Wiltshire	Robertson 2000, 395-6	Silver
Groveley Wood	Wiltshire	Robertson 2000, 396	Silver
Preshute	Wiltshire	Robertson 2000, 397-8	Silver
Stanchester	Wiltshire	Abdy and Robinson 2009	3 gold, silver and 1 bronze
Winterbourne Stoke	Wiltshire	Abdy 2007	Silver
Cleeve Prior	Worcestershire	Robertson 2000, 397	Silver and gold
Fladbury	Worcestershire	Robertson 2000, 398	Silver and bronze
Hovingham	Yorkshire	Robertson 2000, 399	Silver
Richmond	Yorkshire	Robertson 2000, 400	Silver
Whorlton	Yorkshire	Robertson 2000, 400-01	Silver
Wilton	Yorkshire	Robertson 2000, 401	Silver and 1 gold
Chichester	West Sussex	Moorhead 2009	Silver
Saxmundham	Suffolk	Abdy 2009f	silver and

Site name	County	Reference	Notes
			3 gold
Guildford	Surrey	Abdy 2008g	Silver
Wisbech	Cambridgeshire	Robertson 2000, 370	Bronze
Oxton, Birkenhead	Cheshire	Robertson 2000, 370-371	Bronze
Weymouth	Dorset	Robertson 2000	Bronze
Colchester	Essex	Robertson 2000, 373	Bronze
Cirencester	Gloucestershire	Robertson 2000, 374	Bronze
Gloucester	Gloucestershire	Robertson 2000, 374-5	Bronze
Micheldever	Hampshire	Robertson 2000, 375	Bronze
Ryde	Isle of Wight	Robertson 2000, 377	Bronze
Sandown	Isle of Wight	Robertson 2000, 377	Bronze
Wroxall	Isle of Wight	Robertson 2000, 378	Bronze
Gillingham	Kent	Robertson 2000, 379	Bronze
Gravesend	Kent	Robertson 2000, 379	Bronze
Richborough	Kent	Robertson 2000, 379-82	Bronze
Springhead	Kent	Robertson 2000, 382	Bronze
Winterton	Lincolnshire	Robertson 2000, 384	Bronze
Bermondsey	London	Robertson 2000, 384-5	Bronze
Surrey Commercial Docks	London	Robertson 2000, 385	Bronze
Thames foreshore (Wandsworth)	London	Robertson 2000, 385	Bronze
Redenhall	Norfolk	Robertson 2000, 386-387	Bronze
Laxton	Northamptonshire	Robertson 2000, 387-88	Bronze
Nobottle	Northamptonshire	Robertson 2000, 388	Bronze
Dorchester	Oxfordshire	Robertson 2000, 388-9 (3 hoards)	Bronze
Kiddington	Oxfordshire	Robertson 2000, 389 (2 hoards)	Bronze
Worle	Somerset	Robertson 2000, 391-2	Bronze
Woodbridge	Suffolk	Robertson 2000, 395	Bronze
Groveley Wood	Wiltshire	Robertson 2000, 396-7	Bronze
Filey	North Yorkshire	Robertson 2000, 399	Bronze
Scarborough	North Yorkshire	Robertson 2000, 400	Bronze
Stretham	Cambridgeshire	Robertson 2000, 369-70	Bronze
Hawkesbury	South	Abdy and Hobbs 2009	Bronze

Site name	County	Reference	Notes
	Gloucestershire		
Whittington	Northumberland	Collins and Moorhead 2009	Bronze
Medina District	Isle of Wight	Lyne 2009	Bronze
Ketton	Rutland	Curteis 2009	Bronze

Table 34 Summary of hoards containing gold coins minted after AD 402

Site	County	Terminus post quem	Reference
Maiden Castle	Dorset	406	Robertson 2000, 372.
Amesbury (Boscombe Down ort Butterfield Down)	Wiltshire	406	Robertson 2000, 364.
Kirby Knowle (Thirsk area)	Yorkshire, North	406	Barclay 2009
Wilcot (Stanchester)	Wiltshire	406	Abdy and Robinson 2009
Stubbington	Hampshire	406	Abdy 2008j; Webley and Abdy 2009
Ashdon	Essex	406	McLean 2009
Great Glemham	Suffolk	406	Abdy 2008k
Tower of London	London, Greater	408	Robertson 2000, 386.
Good Easter	Essex	408	Bland 1997a; Abdy 2009g
Stanmore Common (Bentley)	London, Greater	411	Robertson 2000, 403.
Eye	Suffolk	411	Robertson 2000, 404.
Hoxne	Suffolk	411	Robertson 2000, 404ff.
Patching	Sussex, West	465	Orna-Ornstein 2009b
Oxborough	Norfolk	475	Abdy 2009a

Table 35: Summary of stray finds of fifth century gold coins.

Emperor	Denomination	Date from	Date to	Parish	County	Reference
Arcadius	Solidus	383	408	Silchester	Hants.	Bland and Loriot 2010
Arcadius	Solidus	383	408	Letchworth	Herts.	Bland and Loriot 2010
Arcadius	Solidus	383	408	Uppingham	Rutland	Bland and Loriot 2010
Arcadius	Solidus	383	408	Spalding	Lincs.	Bland and Loriot 2010
Arcadius	Solidus	393	408	Pencarreg)	Carmarthen	Bland and Loriot 2010
Honorius	Solidus	393	423	Newton St Loe	Somerset	Bland and Loriot 2010
Honorius	Solidus	393	423	Colchester	Essex	Bland and Loriot 2010
Honorius	Solidus	393	423	Great Dunmow	Essex	Bland and Loriot 2010
Honorius	Solidus	393	423	Winchester	Hants.	Bland and Loriot 2010
Honorius	Solidus	393	423	Milton	Kent	Bland and Loriot 2010
Honorius	Solidus	393	423	Thame	Oxon	Bland and Loriot 2010
Honorius	Solidus	393	423	Exning	Suffolk	Bland and Loriot 2010
Honorius	Solidus	394	423	Hoxne	Suffolk	Bland and Loriot 2010
Honorius	Solidus	394	408	Sacrewell	Cambs.	Bland and Loriot 2010
Honorius	Solidus	394	408	Richborough	Kent	Bland and Loriot 2010
Honorius	Solidus	402	423	Bilton in Ainsty	North Yorks.	Bland and Loriot 2010
Arcadius	Solidus	402	406	Combley Farm	Isle of Wight	Bland and Loriot 2010
Arcadius	Solidus	402	406	Richborough	Kent	Bland and Loriot 2010
Honorius	Solidus	402	406	Cliffe and Cliff Woods	Kent	Bland and Loriot 2010
Honorius	Solidus	402	406	Reculver (beach)	Kent	Bland and Loriot 2010

Emperor	Denomination	Date from	Date to	Parish	County	Reference
Honorius	Solidus	402	406	Richborough	Kent	Bland and Loriot 2010
Honorius	Solidus	402	406	Richborough	Kent	Bland and Loriot 2010
Honorius	Solidus	402	406	Caistor St Edmund	Norfolk	Bland and Loriot 2010
Honorius	Solidus	402	406	Uncertain	Uncertain	Bland and Loriot 2010
Theodosius II	Solidus	404	450	Winterton-on-Sea	Norfolk	Bland and Loriot 2010
Arcadius	Solidus	404	408	Weston	Lincs.	Bland and Loriot 2010
Arcadius	Solidus	407	408	Newbuilding, Upsall,	North Yorks.	Bland and Loriot 2010
Constantine III	Solidus	407	411	Plymouth	Devon	Bland and Loriot 2010
Constantine III	Solidus	411	411	Richborough	Kent	Bland and Loriot 2010
Jovinus	Solidus	418	413	Ashford, Willesborough Lees	Kent	Bland and Loriot 2010
Honorius	Solidus	425	423	Richborough	Kent	Bland and Loriot 2010
Valentinian III (Gallic imitation)	Solidus	425	455	Bury St Edmunds (near)	Suffolk	Bland and Loriot 2010
Valentinian III (Gallic imitation)	Solidus	425	455	Cheriton (East Down)	Hants.	Bland and Loriot 2010
Valentinian III (Visigoths)	Solidus	426	455	Castle Hedingham	Essex	Bland and Loriot 2010
Valentinian III	Solidus	430	437	Barrington	Cambs.	Bland and Loriot 2010

Emperor	Denomination	Date from	Date to	Parish	County	Reference
Theodosius II	Solidus	434	440	Camden (Euston Square)	London	Bland and Loriot 2010
Valentinian III (Visigoths)	Solidus	439	455	Seaview	Isle of Wight	Bland and Loriot 2010
Valentinian III (Gallic imitation)	Solidus	439	455	Chichester	Sussex, West	Bland and Loriot 2010
Valentinian III (Visigoths)	Solidus	439	455	Higham	Kent	Bland and Loriot 2010
Valentinian III (Visigoths)	Solidus	441	455	Uncertain	Kent	Bland and Loriot 2010
Theodosius II	Solidus	454	450	Richborough	Kent	Bland and Loriot 2010
Valentinian III	Solidus	455	455	Tredington	Warks.	Bland and Loriot 2010
Avitus	Solidus	455	456	Ash	Kent	Bland and Loriot 2010
Avitus	Solidus	457	456	Hoo	Kent	Bland and Loriot 2010
Leo I	Solidus	457	474	East Kent	Kent	Bland and Loriot 2010
Leo I	Solidus	457	474	Richborough	Kent	Bland and Loriot 2010
Majorian	Solidus	461	461	Carisbrooke	Isle of Wight	Bland and Loriot 2010
Libius Severus	Solidus	461	465	Southease	Sussex, East	Bland and Loriot 2010
Libius Severus (Visigothic	Solidus	461	465	Capel le Ferne	Kent	Bland and Loriot 2010

Emperor	Denomination	Date from	Date to	Parish	County	Reference
imitation)						
Libius Severus (Visigoths)	Solidus	461	465	Carisbrooke	Isle of Wight	Bland and Loriot 2010
Libius Severus (Visigoths)	Solidus	461	465	Minster (Eastchurch), Isle of Sheppey	Kent	Bland and Loriot 2010
Libius Severus (Visigoths)	Solidus	461	465	Sittingbourne (Chequer Court)	Kent	Bland and Loriot 2010
Libius Severus or Zeno (Visigoths)	Solidus	467	493	Canterbury (Marlowe Theatre site)	Kent	Bland and Loriot 2010
Anthemius	Solidus	474	472	Piercebridge	County Durham	Bland and Loriot 2010
Julius Nepos	Solidus	474	475	Wickford	Essex	Bland and Loriot 2010
Julius Nepos	Solidus	476	475	Ash	Kent	Bland and Loriot 2010
Zeno	Solidus	491	491	Uncertain	Uncertain	Bland and Loriot 2010
Anastasius	Solidus	491	492	Uncertain	Sussex, East	Bland and Loriot 2010
Anastasius	Solidus	491	518	Leicester area	Leics.	Bland and Loriot 2010
Anastasius	Solidus	491	518	Canterbury (no further details)	Kent	Bland and Loriot 2010
Anastasius	Solidus	491	518	Norfolk or North Suffolk	Norfolk	Bland and Loriot 2010

Emperor	Denomination	Date from	Date to	Parish	County	Reference
Anastasius	Solidus	491	518	Cheriton (East Down)	Hants.	Bland and Loriot 2010
Anastasius	Solidus	491	518	Eastry	Kent	Bland and Loriot 2010
Anastasius	Solidus	491	518	Coddenham (Anglo-Saxon site I)	Suffolk	Bland and Loriot 2010
Anastasius	Solidus	491	518	Worth	Kent	Bland and Loriot 2010
Anastasius or Justinian	Solidus	492	565	Canterbury (near, ?south-east of)	Kent	Bland and Loriot 2010
Anastasius	Solidus	493	507	Little Burstead	Essex	Bland and Loriot 2010
Anastasius	Solidus	493	526	Uncertain	Norfolk	Bland and Loriot 2010
Theodoric, imitation of Anastasius	Solidus	493	526	Reepham	Norfolk	Bland and Loriot 2010

Table 36: Summary of hoards containing *siliquae* minted after AD 402.

Site	County	Terminus post quem	Reference
Hoxne	Suffolk	408	Guest 2005
Patching	Sussex	465	Orna-Ornstein 2009b
Stanchester	Wiltshire	406	Abdy and Robinson 2009

Table 37: Summary of hoards containing *nummi* minted after AD 402.

Site	County	Terminus post quem	Reference
Whittington	Northumberland	408	NCL-EE2655

Table 38: Summary of all *nummi* from Roman Britain dating to after AD 402

Emperor	Denomination	Date from	Date to	Parish	County	Reference
Theodosius II	Nummus	408	423	Kettlethorpe [61]	Lincolnshire	SWYOR-3BFBA6
Theodosius II	Nummus	408	423	Box	Wiltshire	WILT-3849E2
Honorius	Nummus	421	423	St Albans	Herts	Abdy and Williams 2006, 30.
Honorius	Nummus	421	423	Richborough	Kent	Abdy and Williams 2006, 30.
Honorius	Nummus	421	423	Richborough	Kent	Abdy and Williams 2006, 30
Johannes or Theodosius II	Nummus	423	425	Richborough	Kent	Abdy and Williams 2006, 30-31.
Valentinian III	Nummus	425	435	St Albans	Hertfordshire	Abdy and Williams 2006, 31.
Valentinian III	Nummus	430	435	Wroxeter	Shropshire	Abdy and Williams 2006, 31.
Valentinian III	Nummus	425	435	Dunstable	Bedfordshire	Abdy and Williams 2006, 31.
Valentinian III	Nummus	425	435	St Albans	Herts	Abdy and Williams

[61] There is a note of warning in the PAS record for this coin which casts some doubt on the accuracy of the findspot. 'This coin was stored in a separate plastic envelope and may not be associated with other coins offered for recording at the same time. This coin is commonly found in the Mediterranean but is very rare in the North-Western Empire. One coin of this type might have a Welsh findspot (Abdy and Williams, 2006, p 31, no 56). The patina of this coin is different from the other coins offered for recording from this location. Therefore, it is most likely that this coin is not an ancient loss in Britain. The related record is another probable intruder.' (www.finds.org.uk: accessed 15.11.10)

Emperor	Denomination	Date from	Date to	Parish	County	Reference
						2006, 31.
Valentinian III	Nummus	425	435	Richborough	Kent	Abdy and Williams 2006, 32.

Table 39: Monument Records for Roman activity recorded by the Isle of Wight HER

MONUID	Name	Monument Classification	Summary
MIW198	Atherfield Cliff	ARTEFACT SCATTER	Iron Age and Roman pottery found in cliff face. Lens of material and pit-like features in cliff face. Geophysical survey carried out by GSB Prospection in 2001 produced inconclusive results
MIW270	Grange Chine.	ARTEFACT SCATTER	Numerous finds of Roman pottery.
MIW321	Barnes High	ARTEFACT SCATTER	'Roman Urns and British Pottery' - Rev Kell et al 1856, found c 150 yds E of Barnes Chine and 300 yds E of Barnes. Also finds by later collectors
MIW441	Newbarn Down/ Little Down.	ARTEFACT SCATTER	Extensive flint scatter noted during fieldwalking in 1978. EBA? Also prehistoric, Roman and material of unknown date
MIW1519	Clatterford	ARTEFACT SCATTER	Undated earthworks, possibly lynchets or buillding platforms. Also finds of Romano-British cermaic building material
MIW1575	Yarmouth Roads search area. Baseline A-C	ARTEFACT SCATTER	Swim search area
MIW1577	Needles Roman	ARTEFACT SCATTER	21 Roman coins found scattered on Needles wreck site. 19 coins from the period 275-310 A.D. 2 others both Sicilian, and 1 3rd century BC, other 2nd century BC probably brought home by Pomone sailors
MIW1629	Fishbourne	ARTEFACT SCATTER	Mostly superceded by individual HER numbers
MIW1905	Sowley (Sea bed)	ARTEFACT SCATTER	Small number of pottery sherds from the sea-bed near Sowley,
MIW1976	Grange Chine (East of)	ARTEFACT SCATTER	Roman pottery observed falling from edge of cliff 1977. Trench 1.75m by 0.8m opened in cliff edge 1977 by D.J. Tomalin/D.L. Motkin. Pottery recovered but no sign of stratification
MIW1425	Bowcombe	ARTEFACT SCATTER	Roman material, medieval pottey and flintwork noted during fieldwalking
MIW2248	Plaish Farm, OS Parcel 5020	ARTEFACT SCATTER	Random fieldwalk carried out. Roman material noted
MIW2545	Plaish Farm	ARTEFACT SCATTER	Small abounts of Roman and prehistoric material noted during fieldwalking
MIW4787	SeaClean - South of	ARTEFACT SCATTER	Early Roman gully and medieval occupation debris

MONUID	Name	Monument Classification	Summary
	Centurions Copse		
MIW6318	Saltmead.	ARTEFACT SCATTER	Feature in cliff face containing Roman pottery
MIW6370	Entrance to Wootton Creek.	ARTEFACT SCATTER	Pottery, bone and glass recovered during oyster trawling
MIW6716	Churchills Farm	ARTEFACT SCATTER	Scatter of Roman pottery and coins
MIW6717	Merstone (KTAS watching brief)	ARTEFACT SCATTER	Small scatter of Roman pottery andm ironworking slag from pipeline easement
MIW6736	Chessell	ARTEFACT SCATTER	Scatter of Roman pottery, coins and tile
MIW6738	Marvel Lane	ARTEFACT SCATTER	Roman pottery scatter comprising fine and coarse wares
MIW6825	Binstead Beach, east of sewage outfall (B7)	ARTEFACT SCATTER	Artefact scatter comprising worked and burnt flint, pre-Flavian and mid-late Saxon to early medieval pottery
MIW7234	Churchills Farm.	ARTEFACT SCATTER	Pottery scatter including both fine and coarse wares
MIW7238	West of Yarmouth Pier.	ARTEFACT SCATTER	Ceramics including amphora, white ware flagon, found whilst dredging for oysters
MIW7455	Puckpool Beach.	ARTEFACT SCATTER	Roman artefact scatter including pottery, briquetage and tile
MIW7462	Field south west of Carisbrooke Castle	ARTEFACT SCATTER	Metal detected finds
MIW7465	Bowcombe Barn Farm.	ARTEFACT SCATTER	Metal detector finds

MONUID	Name	Monument Classification	Summary
MIW11476	Springvale	ARTEFACT SCATTER	Scatter of briquetage and Roman pottery including Samian and black burnished ware
MIW739	'Salcombe', Castle Road, Ventnor	ARTEFACT SCATTER	Roman midden comprising shells, animal bones and small pottery fragments, and coin hoard found during construction of a house in 1928. 246 coins from Valerian to Tetricus Junior
MIW1430	Quarr Beach. Replaced by individual site numbers	ARTEFACT SCATTER	Replaced by individual site numbers
MIW6724	KTAS, Chawton: North of Chawton Lane, OS parcel no. 1900 'F	ARTEFACT SCATTER	Prehistoric flintwork, and a small amount of Roman, early medieval and medieval ceramics.
MIW7000	Barnes Chine	ARTEFACT SCATTER	Hillwash layer containing flint debitage and implements of Mesolithic to Bronze Age date. Above this, layer of hillwash cut by a lens with sherds of Oxford grey ware. Overlying this a layer containing Roman pottery
MIW7427	Alverstone.	CAUSEWAY	Iron Age & Roman causeways (unconfirmed, report awaited)
MIW471	Railway Cutting East of Hunny Hill.	CEMETERY	Roman urns and amphorae containing burnt bones and ash found during railway construction in 1861
MIW48	Sheepwash	CIST	Stone cist of large slabs of yellow oligocene sandstone found December 1898 by sand diggers. At the bottom of the cist was a 'pillow-stone' on which was a Belgic two-handled urn with human cranium.
MIW978	Watergate Newport	CORN DRYING OVEN	Roman Structure. Arched structure comprising tile stacks and standing on tiled surface exposed in northern face of ditch. Interpreted by D. Tomalin as flue for corn-drying kiln, and by D. Motkin as flue arch for hyp
MIW1254	Packway.	CORN DRYING OVEN	Roman corn drier
MIW12175	Brading Primary School	CREMATION	Roman coarse ware vessel containing cremated bone, found when building new classrom

MONUID	Name	Monument Classification	Summary
MIW5662	SeaClean - Havenstreet	DITCH	Occupation activity of both Middle Iron Age and Late Iron Age date comprising two ditches, two pits and a post hole. Also Roman material and prehistoric flintwork
MIW6175	SeaClean - West of Chillingwood Copse	DITCH	Roman activity comprising kiln structures, gullies and pits with later activity of medieval date represented by a gully
MIW1809	Clatterford: Court Mead Field	ENCLOSURE	Clatterford Roman Villa
MIW1858	North east of Rookley	ENCLOSURE	Ditched features, including enclosures and field boundaries, of later prehistoric or Roman origin, visible as cropmarks on aerial photographs.
MIW2097	N. of Chiddles Farm	ENCLOSURE	Rectilinear ditched enclosure of probable Iron Age or Roman origin, visible as cropmarks on aerial photographs.
MIW11909	Cheverton Down	FIELD BOUNDARY	Banked field boundaries of possible prehistoric or Roman origin, visible as low earthworks on aerial photographs on Cheverton Down.
MIW11963	Newbarn Down	FIELD BOUNDARY	Field boundaries of probable prehistoric or Roman origin, visible as cropmarks on aerial photographs to the south-west of Little Down.
MIW11966	Brighstone Forest	FIELD BOUNDARY	Banked field boundaries or lynchets of possible prehistoric or Roman origin, visible as low earthworks on aerial photographs. They are possibly an extension of the field system described in MIW411.
MIW290	'Gallibury Fields' Field System	FIELD SYSTEM	Enclosure and field system on the north side of Cheverton Down, immediately east of Rowborough Bottom, traced continuously over about half a square mile of Downs.
MIW304	Rock, Field System	FIELD SYSTEM	Lynchets from 1 to 3 m high and wide, mutilated by rabbits and surface gravel workings. Too far apart to form step or strip lynchets of medieval date, they are probably associated with the Roman Villa at Rock
MIW410	Pitts Down	FIELD SYSTEM	Field System comprising extensive system of well defined, regular and substantial cross slope lynchets up to 2.5m in height
MIW411	Little Down and	FIELD SYSTEM	Remains of field system

MONUID	Name	Monument Classification	Summary
	Newbarn Down.		
MIW523	Idlecombe	FIELD SYSTEM	Possible IA/RB Field System visible as earthworks in pasture field.
MIW531	Apes Down	FIELD SYSTEM	About 10 lynchets visible on aerial photographs and two rectilinear features near top of slope where less steep
MIW1043	Mersley Down	FIELD SYSTEM	Banked and ditched field system and hollow way of Iron Age or Roman origin, visible as low earthworks and cropmarks on aerial photographs.
MIW1044	Ashey Down	FIELD SYSTEM	Field boundaries of possible prehistoric or Roman origin, visible as cropmarks on aerial photographs.
MIW1110	Brading Down	FIELD SYSTEM	Field system extending for approx 800m across S and SE slopes and on a NNE to SSW alignment, generally orientated at right angles to the slope. Fields both long and narrow and square, bounded by well preserved lynch
MIW6321	Newbarn Down	FIELD SYSTEM	Earthworks identified and surveyed using GPS, APs and sketch plotting.
MIW11561	Mersley Down	FIELD SYSTEM	Banked and ditched field system of Iron Age or Roman origin, visible as low earthworks and cropmarks on aerial photographs.
MIW11563	Middle West Down.	FIELD SYSTEM	A bank and ditched field system of later prehistoric or Roman date, visible as cropmarks on aerial photographs on Middle West Down.
MIW11910	Cheverton Down	FIELD SYSTEM	Fragments of a field system of probable prehistoric or Roman date are visible as low earthworks on aerial photographs on Cheverton Down.
MIW11929	Gallibury Fields	FIELD SYSTEM	Fragments of a field system of possible prehistoric or Roman date, visible as cropmarks on aerial photographs at Gallibury Fields.
MIW11935	Gallibury Fields	FIELD SYSTEM	Fragments of a field system of probable prehistoric or Roman date are visible as earthworks on aerial photographs at Gallibury Fields.
MIW12069	Bowcombe Down	FIELD SYSTEM	Fragments of a field system of possible prehistoric or R/B origin are visible as cropmarks on aerial photographs on Bowcombe Down. The bank and ditched lynchets run roughly parallel with the contours of the south-ea
MIW12070	Bowcombe Down	FIELD SYSTEM	Fragments of a field system of possible prehistoric or R/B origin are visible as low earthworks and cropmarks on aerial photographs on Bowcombe Down. The bank and ditched lynchets may be a continuation of the field
MIW1043	Mersley Down	HOLLOW WAY	Banked and ditched field system and hollow way of Iron Age or Roman origin, visible as low earthworks and cropmarks on aerial photographs.
MIW908	Avondale	HYPOCAUST	Roman Hypocaust found in laying a gas main at the lower end of Avondale Road, c. 100 yds. from the east wall of

MONUID	Name	Monument Classification	Summary
	Road, Newport		the villa
MIW1178	Redcliff	INDUSTRIAL SITE	Iron Age occupation, early Roman salt making activities. 'U' shaped gulley extending 8m across site containing Belgic wares, salt processing containers, 1st century Samian and Dressel 1 amphorae.
MIW65	Totland	INHUMATION	A female extended burial was found in 1965 during road making, lying E-W with the head to the E. No accompanying finds but pathological examination suggested it to be quite old and probably Roman or Saxon.
MIW741	North of Belgrave Road, Ventnor	INHUMATION	Roman skeleton with twisted copper alloy armlet found in 1845, apparently buried in fall of earth
MIW742	North of Belgrave Road, Ventnor	INHUMATION	Human remains. Several skeletons found c1849
MIW6175	SeaClean - West of Chillingwood Copse	KILN	Roman activity comprising kiln structures, gullies and pits with later activity of medieval date represented by a gully
MIW7030	Fishbourne Beach (F160)	KILN	Kiln material including pedestals, kiln bars, slab fragments and possible briquetage fragments associated with a small, irregularly shaped depression cut into Oligocene clay bedrock
MIW298	Limerstone Down	LINEAR EARTHWORK	Bank and Ditch disturbed during gravel digging 1932. Roman finds and coin hoard.
MIW5516	Padmore Farm, Whippingham (Network Archaeology site 11).	LINEAR FEATURE	Flint scatter, prehistoric features, Romano-British ditches, medieval ditch and pottery
MIW615	Undercliff Midden	MIDDEN	Artefacts in IW Museum Collection labelled 'Undercliff Midden'
MIW691	Binnel	MIDDEN	IA/RB Middens. One excavated by Dr Burrows of Southsea in 1923-4. Others noted by G. Dunning with Iron Age

MONUID	Name	Monument Classification	Summary
			pottery, also LBA globular urn.
MIW729	Gills Cliff, Ventnor. (St. Albans Church)	MIDDEN	Midden containing Iron Age and Roman pottery, animal bones and shells found 1930
MIW740	Lyncombe, Castle Road, Ventnor.	MIDDEN	Romano-British Midden including bead rimmed pottery and first century brooches
MIW821	Steephill Castle	MIDDEN	Midden
MIW2494	Cliff edge between St Catherine's Point and Castle Haven.	MIDDEN	Pit-like feature containing flint and Roman pottery
MIW4903	St Catherine's Point	MIDDEN	A midden just east of the lighthouse enclosure and close to the shore. The pottery is mostly Belgic with Romano-British ware and a very little Iron Age A2 (Sherwin)
MIW4960	River Medina (West). Pinkmead.	MIDDEN	Lens of dark, organic material in river bank. Contains Roman pottery and charcoal.
MIW7237	Carisbrooke Mill	MOSAIC	Report of mosaic pavement
MIW1558	Newnham Farm, Binstead	OCCUPATION SITE	Romano-British pottery discovered by farmer, 1983 in spoil heaps from field drains in boggy area of field. Investigated by IWAC volunteers. Pottery almost entirely late-2nd to early-4th-C character including wasters
MIW4868	East of Yaverland Manor Farm (SeaClean)	OCCUPATION SITE	Significant late Iron Age/Romano-British settlement site, post Roman post holes. Site of Time Team excavation (2001)
MIW6732	KTAS,	OCCUPATION SITE	A formerly unknown complex of substantial Roman buildings sited on the lower slope of the field

MONUID	Name	Monument Classification	Summary
	Chawton. Roman site, 'field 4'.		
MIW7130	Brading Roman Villa, 'Middle Paddock'.	OCCUPATION SITE	Iron Age/Early Roman features revealed during works associated with car park construction.
MIW11	Sudmoor	OCCUPATION SITE	Late Belgic and Roman occupation site.Three huts and a well destroyed by cliff falls. Two of the huts excavated 1933 and 1939
MIW458	Bowcombe	OCCUPATION SITE	Belgic and Roman occupation site
MIW7499	Dukes Farm, Rew Street	OCCUPATION SITE	Roman remains including a possible tessellated pavement, said to have been broken up by workmen
MIW904	Queens Road, Newport.	OCCUPATION SITE	Late Belgic/early Roman hut site found whilst digging a sewer near the northern end of the road
MIW1045	Field south of Road between Mersley and Ashey Downs	OCCUPATION SITE	Soil marks
MIW1897	Ashey Down	OCCUPATION SITE	Small Romano-British settlement and possible small circular enclosure noted during survey by Peter Drewett, 1969
MIW5526	Briddlesford Lodge Farm. (Network Archaeology site 20)	OCCUPATION SITE	Late Iron Age/Romano-British Settlement Activity
MIW905	Cypress Road, Newport	OCCUPATION SITE	Roman walling uncovered whilst connecting house drains to a sewer in Cypress Road, Newport. 2ft thick, estimated length 30-40ft.
MIW2562	Shalfleet Vicarage	PIT	Evaluation by SAS revealed four apparently truncated pits containing Roman pottery and ceramic building materials and a large ditch or infilled water course with medieval pottery and iron-smithing slag

MONUID	Name	Monument Classification	Summary
	Garden		
MIW6818	Newtown East Spit	POST ALIGNMENT	Longshore post alignment
MIW7023	Fishbourne Beach (F35).	POST ALIGNMENT	Double post alignment at foot of storm beach
MIW7475	Thorness Bay	POST BUILT STRUCTURE	Rectilinear post setting in the intertidal zone. Radiocarbon dated to 3rd-4th century
MIW565	Burnt Wood, Thorness	POTTERY KILN	Possible Roman Pottery Kiln excavated by Pritchett, 1930-32. 1st and 2nd century pottery found, but no wasters. May have been a pottery kiln or corn drying furnace
MIW6804	Quarr Beach	SALTERN	Kiln furniture
MIW6803	Quarr Beach (Q4)	STRUCTURE	Wooden structure within Quarr palaeochannel comprising brushwood platform, posts and horizontal timbers. Also pottery falling into two clearly defined assemblages dating to c50 BC - AD 100 and 4th - early 5th c, and
MIW276	Rock Roman Villa	VILLA	Discovered c 1831. Excavated by D. Tomalin 1975. S-E facing corridor house on terrace cut into hillside dated to c AD 275-300. Corn dryer inserted when building dilapidated c AD 375-400
MIW495	Clatterford Roman Villa	VILLA	Villa first identified 19th century. Geophysical survey carried out by AML 1993, followed by trial trenching which showed villa to have originated in mid 1st century AD & reached its max. extent by later 3rd C with
MIW502	Carisbrooke Roman Villa	VILLA	Bath house and hypocaust with rooms surrounding atrium, to north. Floral mosaic in main room, red tesserae in corridor & atrium. Found 1859. Coins suggest late third-early fourth century occupation
MIW907	Newport (Shide) Roman Villa, Cypress Road	VILLA	3rd.c. Roman Villa of winged - corridor type overlaying a 1st-2nd. C. habitation site, excavated P.G. Stone in 1926. Further excavation in 1981 during construction work & 1991 to investigate damp
MIW935	Combley Roman Villa	VILLA	Roman Villa excavated 1911 by Arthur Arnold and late 1960s onwards by Laurie Fennelly
MIW1069	Brading Roman Villa	VILLA	Excavated from 1880 onwards. 3 wings set round central courtyard. Mosaics in central block

MONUID	Name	Monument Classification	Summary
MIW1586	Gurnard Roman Villa	VILLA	Row of three small rooms, remains of Roman building - excavated 1864 by E.J. Smith. Remainder of building had been destroyed by sea. Coins dating from Augustus and Vespasian to 4th C
MIW1418	Bowcombe Manor Farm	VILLA	Wall and Roman tile

Table 40: Hoards from the Isle of Wight

Parish	Closing date	Composition	Reference
Shorwell I	AD 87	1 *sestertius* and 50 *dupondii*/*asses*	Abdy 2008h
Freshwater II	AD 192	4 *sestertii*, 1 *as*, 1 *dupondius/as* & 11 lower denominations	Abdy 2009i
Carisbrooke	AD 167	28 *dupondii* or *asses*	Abdy 2008i
Bembridge	AD 192	21 *sestertii*, 4 *dupondii,* 1 *as*	Robertson 2000, 55
Gurnard	AD 174	15 cast forgeries of *denarii*	Robertson 2000, 59
Newport	AD 180	'A gallon measure of Roman brass coins'	Robertson 2000, 61
Northwood	Period 8	7 *sestertii*	SMR 1909 – MIW2012
Shorwell II	AD 182	3 *denarii* + 1 *sestertius* and 11 uncertain bronze	Abdy 2009h
Newchurch	AD 197	39 *sestertii*, 16 *dupondii/asses* & 2 uncertain bronzes	Lyne 2006
Freshwater I	AD 274	Approximately 250 *radiates*	Robertson 2000, 143
Ventnor I	AD 274	246 *radiates*	Robertson 2000, 143
Bowcombe	Period 14	471 *radiates*	Bland, Cepas and Tosdevin (1997) 264-278.
Yarmouth	AD 273	Dispersed *radiate* hoard and site finds	Abdy 2003b
Shorwell III	AD 378	22 *nummi*	Robertson 2000, 338
'Arreton'	Period 21	'a small 4th century coin hoard'	SMR 989 MIW1041
'Combley Farm'	Period 21	1156 coins	Lyne 2008; SMR 2456 – MIW2506
Fishbourne Beach	AD 395	71 *nummi*	Robertson 2000, 362
Ryde	AD 395	'small brass Roman coins'	Robertson 2000, 377
Sandown	AD 395	92 *nummi*	Robertson 2000, 377

Parish	Closing date	Composition	Reference
Shanklin	AD 395	6 siliquae and 600 *nummi*	Robertson 2000, 377-78
Shalfleet	AD 402	2 *solidi* and 7 *siliquae*	Lyne and Abdy 2004
Shorwell IV	Period 21	3 clipped *siliquae*	Abdy 2010
Ventnor II	'Theodosian'	6 *nummi*	Robertson 2000, 408
Wroxall	AD 395	5 *radiates* and more than 236 *nummi*, possibly as many as 5000	Robertson 2000, 378
Medina District	Period 21		Lyne 2009, 339

Table 41: The chronological distribution of Period 1 coins from the Isle of Wight

Period 1 subdivisions	Date range	Total coins from Isle of Wight	Isle of Wight *per mill* values	PAS *per mill* values
1	211-200 BC	0	0	1.42
2	199-190 BC	0	0	0
3	189-180 BC	0	0	0
4	179-170 BC	0	0	2.84
5	169-160 BC	0	0	0
6	159-150 BC	0	0	8.52
7	149-140 BC	0	0	7.1
8	139-130 BC	0	0	19.88
9	129-120 BC	1	30.3	14.2
10	119-110 BC	1	30.3	53.97
11	109-100 BC	4	121.21	46.87
12	99-90 BC	2	60.6	39.77
13	89-80 BC	1	30.3	68.18
14	79-70 BC	0	0	53.9
15	69-60 BC	1	30.3	31.25
16	59-50 BC	1	30.30	39.77
17	49-40 BC	3	90.9	146.3
18	39-30 BC	4	151.51	176.13
19	29 BC-AD 14	6	181.81	151.9
20	14-37 AD	6	181.81	122.15
21	37-41 AD	2	60.6	15.62
Total		33	0	
Uncertain		1	0	

Table 42: Mean values for the Isle of Wight and Hampshire

Reece Period	Isle of Wight coin totals	Isle of Wight Mean	PAS Mean	Hampshire Mean
1	29	44.68	10.38	15.34
2	5	7.70	4.77	0.00
3	6	9.24	3.62	2.56
4	25	38.52	16.38	18.53
5	21	32.36	11.29	7.03
6	27	41.60	12.73	11.50
7	43	66.26	25.34	19.17
8	30	46.22	7.57	14.70
9	15	23.11	4.74	5.11
10	16	24.65	23.48	22.36
11	10	15.41	10.40	4.47
12	7	10.79	17.37	12.14
13	44	67.80	122.15	157.83
14	33	50.85	102.94	78.59
15	30	46.22	31.60	36.42
16	59	90.91	65.63	73.48
17	118	181.82	276.84	247.28
18	49	75.50	89.89	72.20
19	72	110.94	144.13	188.50
20	4	6.16	5.42	3.19
21	6	9.24	13.34	9.58

Table 43: The proportion of coins by mint in the Isle of Wight and Hampshire datasets

Mint	PAS total	% of all coins recorded	Isle of Wight total	% of all coins recorded	Hampshire total	% of all coins recorded
Aquileia	190	0.32%	6	0.6%	6	0.16%
Cyzicus	25	0.04%	4	0.4%	5	0.13%
Constantinople	194	0.33%	2	0.2%	4	0.11%
Siscia	203	0.35%	16	1.63%	10	0.27%
Nicomedia	25	0.04%	2	0.2%	4	0.11%
Thessalonica	45	0.07%	5	0.5%	3	0.08%
Heraclea	16	0.02%	3	0.3%	1	0.02%
Antioch	17	0.02%	0	0	3	0.08%
Totals	876	n/a	38	n/a	36	n/a

Table 44: *Per mill* values for PAS parish assemblages on the Isle of Wight

Reece period	Arreton	Bembridge	Brighstone	Calbourne	Freshwater	Godshill	Niton and Whitwell	Shalfleet	Shorwell	Yarmouth
1	0	60	15	0	0	0	74	43	73	0
2	0	0	0	10	0	56	0	8	24	0
3	0	40	15	0	0	56	0	8	0	0
4	0	120	92	31	0	0	37	16	98	37
5	23	60	62	51	0	56	0	23	24	0
6	47	0	46	10	45	0	0	35	24	74
7	116	20	46	92	0	222	74	27	244	74
8	93	80	77	31	0	111	74	19	98	37
9	23	40	46	10	0	56	74	16	0	37
10	47	0	46	10	0	0	37	35	0	0
11	47	0	15	0	45	0	0	16	0	74
12	23	0	0	10	45	0	0	8	0	37
13	93	20	15	41	45	56	37	89	24	259
14	0	40	15	10	91	0	74	62	98	0
15	0	0	46	71	91	56	111	50	24	0
16	23	80	46	61	91	56	74	132	73	37
17	233	100	123	82	136	56	148	271	146	111
18	23	80	123	92	136	56	148	70	24	0
19	70	260	154	184	182	0	37	70	0	185
20	23	0	0	0	45	0	0	4	0	37
21	0	0	46	31	45	0	0	0	24	0

Table 45: Reece period breakdown for each site in Shalfleet parish

Reece period	Site A	Site B	Site C	Site D	Site E	Site F	Site G	Site H	Site I	S/C A
1	0	0	3	2	1	1	0	2	0	1
2	0	0	1	1	0	0	0	0	0	0
3	0	1	0	1	0	0	1	0	0	0
4	0	1	1	0	0	0	0	0	0	1
5	0	0	3	0	1	0	0	1	0	0
6	1	0	7	0	0	0	1	0	0	0
7	0	0	4	0	0	0	1	1	0	0
8	0	0	1	0	1	0	1	1	0	0
9	0	0	1	1	1	0	0	0	0	0
10	0	0	6	1	1	0	0	0	0	0
11	0	0	2	0	1	0	0	0	0	0
12	0	0	1	0	0	1	0	0	0	0
13	10	0	12	0	0	0	0	0	0	0
14	8	0	1	3	0	1	2	0	0	0
15	3	0	6	2	0	0	1	0	0	0
16	8	1	14	6	2	1	0	0	1	1
17	45	0	18	1	2	0	0	0	2	2
18	6	0	8	1	0	0	0	0	1	0
19	5	1	11	0	0	0	0	0	0	0
20	0	0	1	0	0	0	0	0	0	0
21	0	0	0	0	0	0	2	0	0	
Total	86	4	101	19	10	4	9	5	4	
Pre 250	4	1	7	0	3	0	9	5	0	
Post 250	23	5	18	0	13	0	0	0	0	
Unknown	2	0	1	0	0	1	0	0	1	

Table 46: Reece period breakdown for each site in Calbourne parish

Reece period	Site A	Site B	Site C	Site D	Site E	Site F	Site G
1	1	2	1	0	0	0	1
2	0	0	1	0	0	0	0
3	0	0	0	0	0	0	0
4	0	0	1	1	0	0	0
5	1	0	1	0	0	1	0
6	1	0	0	2	1	0	1
7	3	0	1	1	0	0	0
8	0	0	0	0	0	2	0
9	0	0	1	0	0	0	0
10	0	0	0	0	0	1	0
11	0	0	0	0	0	0	0
12	0	0	0	0	0	0	0
13	2	0	0	0	1	0	0
14	0	0	1	0	0	0	0
15	1	0	4	0	0	1	0
16	1	0	1	0	0	3	0
17	3	1	2	0	1	1	0
18	4	0	0	0	3	1	0
19	1	8	2	0	6	0	0
20	0	0	0	0	0	0	0
21	1	0	0	0	0	0	0
Total	19	11	16	4	12	10	2
Pre 250	0	0	0	1	0	0	3
Post 250	0	0	0	0	0	0	0
Unknown	6	2	0	0	0	0	0

Table 47: Reece period breakdown of each site in Brighstone parish

Reece period	Site A	Site B	Site C	Site D
1	0	0	0	0
2	0	0	0	0
3	0	0	0	0
4	0	1	0	1
5	0	0	0	1
6	0	0	1	1
7	0	0	2	0
8	0	0	0	3
9	0	0	0	2
10	1	1	1	0
11	0	0	1	0
12	0	0	0	0
13	0	0	1	0
14	0	0	1	0
15	0	0	2	0
16	0	0	3	0
17	1	0	4	1
18	0	0	7	0
19	0	0	7	1
20	0	0	0	0
21	0	0	1	0
Total	2	2	31	10
Pre 250	2	3		1
Post 250	1	0	0	0
Unknown	0	0	0	0

Table 48: Summary of objects recorded by the PAS in the parish of Shalfleet

Site Name	Site Group	PAS Number	Object description
Shalfleet Site A	Group 3	IOW-37C331	Copper alloy slide key
Shalfleet Site A	Group 3	IOW-9145C4	Copper alloy 'propeller' belt stiffener
Shalfleet Site A	Group 3	IOW-F868C3	Tile, roof slabs and pottery
Shalfleet Site A	Group 3	IOW-F68546	Vectis ware storage vessel sherd 4th c
Shalfleet Site A	Group 3	IOW-F730D8	New Forest ware indented beaker 4th c
Shalfleet Site B	Group 1	IOW-C4B7C5	Copper alloy strap end
Shalfleet Site C	Group 4	IOW-E72DD6	Glass bead
Shalfleet Site C	Group 4	IOW-275F51	Copper alloy bead
Shalfleet Site C	Group 4	IOW-83C5F3	Samian, Vectis and grog tempered ware sherds
Shalfleet Site C	Group 4	IOW-912052	Samian ware sherd
Shalfleet Site C	Group 4	IOW-2D3F38	Samian ware dish AD 150-200
Shalfleet Site C	Group 4	IOW-B0D380	Copper alloy bead
Shalfleet Site C	Group 4	IOW-84C473	Copper alloy bead
Shalfleet Site C	Group 4	IOW-606116	Copper alloy bead
Shalfleet Site C	Group 4	IOW-31C403	Copper alloy bracelet
Shalfleet Site C	Group 4	IOW-7A1D45	Copper alloy box mount
Shalfleet Site C	Group 4	IOW-C604E3	Copper alloy finger ring
Shalfleet Site C	Group 4	IOW-D2B352	Copper alloy pin
Shalfleet Site C	Group 4	IOW-772505	Copper alloy pin
Shalfleet Site C	Group 4	IOW-698382	Copper alloy pin

Site Name	Site Group	PAS Number	Object description
Shalfleet Site C	Group 4	IOW-E44E91	Copper alloy pin
Shalfleet Site C	Group 4	IOW-E7BF52	Lead steelyard weight
Shalfleet Site C	Group 4	IOW-E5FA82	Lead steelyard weight
Shalfleet Site C	Group 4	IOW-B00BF7	Copper alloy strap fitting
Shalfleet Site C	Group 4	IOW-07AEC5	Tile (imbreces and tegulae)
Shalfleet Site C	Group 4	IOW-8E5564	Copper alloy toilet article
Shalfleet Site C	Group 4	IOW-C9E885	Copper alloy tweezers
Shalfleet Site C	Group 4	IOW-12F905	Samian, Vectis ware, Black Burnished Ware, Greyware sherds
Shalfleet Site C	Group 4	IOW-073113	Samian, Vectis, Black Burnished Ware, Greyware sherds
Shalfleet Site C	Group 4	IOW-BD4D8?	Greyware pottery sherds
Shalfleet Site C	Group 4	IOW-6279D3	Samian Dragendorff type 15/17 platter AD 43-96
Shalfleet Site C	Group 4	IOW-2F37A2	Samian Dragendorff type 27 cup, AD 43-160
Shalfleet Site E	Group 1	IOW-C34C71	Lead pot mend
Shalfleet Site F	Group 3	IOW-CA2F62	Vectis ware pottery sherds
Shalfleet Site F	Group 3	IOW-CA4D04	Vectis ware pottery sherds
Shalfleet Site F	Group 3	IOW-CA65A1	Vectis ware pottery sherds
Shalfleet Site F	Group 3	IOW-CA88A7	Vectis ware pottery sherds
Shalfleet Site F	Group 3	IOW-CAA3A4	Vectis ware and New Forest ware pottery sherds
Shalfleet Site F	Group 3	IOW-CAC325	Vectis ware pottery sherds
Shalfleet Site F	Group 3	IOW-CADCE6	Grog tempered ware and Vectis ware pottery sherds
Shalfleet Site F	Group 3	IOW-CAA083	Vectis ware pottery sherds

Site Name	Site Group	PAS Number	Object description
Shalfleet Site G	Group 1	IOW-EA1AE6	Vectis ware pottery sherds
Calbourne Site A	Group 1	IOW-EEDE26	Rotary quern
Calbourne Site A	Group 1	IOW-665AB5	Tegulae and floor tile
Calbourne Site A	Group 1	IOW-90EDD5	Box flue tile
Calbourne Site A	Group 1	IOW-8FE1F7	Vectis and Black Burnished ware pottery sherds
Calbourne Site A	Group 1	IOW-DE5117	Black burnished ware pottery sherds
Calbourne Site B	Group 1	IOW-4EA242	Glass bead
Calbourne Site C	Group 1	IOW-BA76D1	Copper alloy harness pendant
Calbourne Site F	Group 1	IOW-5B9644	Copper alloy figurative weight
Calbourne Site G	Group 2	IOW-2CA926	Copper alloy reclining bull figurine
Brighstone Site A	Group 1	IOW-364DC2	Vectis ware and Black Burnished ware pottery sherds

Table 49: Coin totals and *per mill* values for DUR0007 and Piercebridge site assemblages

Reece period	DUR0007 totals	DUR0007 per mill	Piercebridge comparative totals	Piercebridge comparative per mill
1	12	14	2	1
2	0	0	0	0
3	10	12	0	0
4	40	47	17	7
5	49	57	15	6
6	58	68	16	6
7	112	131	18	7
8	44	51	11	4
9	14	16	2	1
10	182	213	56	22
11	111	130	12	5
12	45	53	16	6
13	91	106	832	333
14	60	70	550	220
15	4	5	16	6
16	2	2	23	9
17	7	8	129	52
18	5	6	608	243
19	1	1	127	51
20	1	1	5	2
21	8	9	42	17
Totals	**856**		**2497**	

Table 50: Per mill values for Piercebridge river deposit (DUR0007) denominational profile

Reece Period	1	2	3	4	5	6	7	8	9	10	11	12
Aureus	0	0	0	0	0	0	0	0	0	0	0	0
Denarius	19	0	14	36	17	36	74	33	8	288	171	0
Sestertius	0	0	0	3	33	35	35	28	14	0	2	0
Dupondius & As	0	0	0	23	27	21	68	8	0	0	3	0

Table 51: Per mill values for Piercebridge site (Brickstock 2008) denominational profile

Reece period	1	2	3	4	5	6	7	8	9	10	11	12
Aureus	0	0	0	0	0	0	0	0	0	0	0	0
Denarius	7	0	0	35	14	14	21	7	0	380	70	0
Sestertius	0	0	0	14	56	70	56	49	7	7	0	0
Dupondius & As	0	0	0	7	14	21	49	21	0	14	7	0

Table 52: Objects by functional category in DUR0007 assemblage

Functional category	Total number	%
P. adornment	177	34
Toilet	38	7
Household	16	3
Religious	37	7
Military	109	20
Fasteners	85	16
Writing	35	7
Weighing	7	1.
Tools	1	0.1
Structural	3	0.6
Recreation	3	0.5
Textile	16	3